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						V	later Co	mplian	ice Ins	specti	on Re	poi	rt								
							Section	A: Nation	al Data S	System	Coding (i	.e., P	CS)								
Transact	tion Co	de				N	IDPES			уу	/mm/dd			Insp	ection T	уре	Ins	spector	Fac	Гуре	
1 <b>N</b>	2	:	3	RIR04	10007				11 12		0 3 2	3		17 1	8 <b>R</b>		19	J	20 1		
21									Rema	arks										Ш	66
Inspec ion	Work D	ays			Facility	Self-Mo	onitoring Evalu	uation Rating		į	31		QA				Re	eserved			
67 <b>1</b>	. 0		69				70			71			72	7	3	74	75			80	
								Sec	tion B: F	acility D	ata										
include PO	TW na	me ar	-				al users disch	arging to PO	TW, also						ntry Tin D:15 AM			Permi	t Effect	ve Da	ite
Various loc North Prov															xit Time	e/Date		Permi	t Expira	tion D	)ate
Name(s) of	f On-Sit	e Rer	resent	ative(s)	/Title(s\/l	Phone a	and Fax Numb	per(s)							ther Fa	cility Da	ata				
No represe	entative	s pre	sent o	r notifie	ed		l Fax Number				Cont	acted	X No								
					Secti	on C:	Areas Eval	uated Durii	na Insnea	ction (C				: evalu	(hate						
Rei Fac	rmit cords/R cility Sit luent/R ow Meas	e Reveceivi	∕iew ng Wat	ers			Self-Monitor Compliance Laboratory Operations	ing Program	ce	X 5	Pretreatme Pollution Polition Water Combined Sanitary Se	nt reven er Sewei	ion Overflow		,	N	/IS4				
			Sectio	n D: 3	Summa	ry of F	indings/Cor	nments (At	ttach add	litional s	heets of	narra	ative and	d chec	klists a	as nec	essar	y)			
					1																
					_																
	partici	patin	g: Davi	id Turir	n, EPA; <i>i</i>		arge locatior senberg, EP		o, RI DEM.		are being				ial futur	re comp	Da		ling in:	specti	ions.
David T:										-DA 05	e erw.	247 04	10 1500					02/2	1/2044		
David Turir Signature of		igeme	ent QA	Review	er						se/Phone a			ers			Da		4/2011		
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Water Compliand	ce Inspection Report		
Section A: Nationa	I Data System Coding (i.e., PCS)		
Transaction Code NDPES	yy/mm/dd	Inspection Type Ir	nspector Fac Type
1 N 2 3 RIR040007	11 12 <b>12/5/31</b> Remarks	17 18 <b>R</b> 1	9 <b>R</b> 20 <b>1</b>
21			66
Inspec ion Work Days Facility Self-Monitoring Evaluation Rating 67 1 . 0 69 70	B1 QA 71 72 72	73 74 75	Reserved
	on B: Facility Data		<u> </u>
Name and Location of Facility Inspected (For industrial users discharging to POT include POTW name and NDPES permit number)  Various locations	W, also	Entry Time/Date 1:00 PM  Exit Time/Date	Permit Effective Date
North Providence, RI		1:30 PM	Permit Expiration Date
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)  No representatives present or notified		Other Facility Data	
Name, Address of responsible Official/Title/Phone and Fax Number.	Contacted Yes X No	nugliusia di	
	g Inspection (Check only those areas e		
Permit Self-Monitoring Program Records/Reports Compliance Schedules Facility Site Review Laboratory  X Effluent/Receiving Waters Operations & Maintenance Flow Measurement Sludge Handling/Disposal	Sanitary Sewer Overflow	X MS4	
Section D: Summary of Findings/Comments (Atta	ach additional sheets of narrative and	checklists as necessa	ry)
Unannounced reconnaissance of stormwater discharge locations. Sites insp performed at 3 discharge pipes at Gillen St; all test results were zero. Pearl S		ning for Chlorine and To	otal Phosphorus was
Name(s) and Signature(s) of Inspector(s)	Agency/Office/Phone and Fax Numbers	D	ate
David Turin	USEPA, OES - SEW / 617-918-1598		06/07/2012
Signature of Management QA Reviewer	Agency/Office/Phone and Fax Numbers	D	ate

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						W	ater Compliance	Inspe	ectio	on Rep	ort			
							Section A: National Da	ıta Syst	tem C	Coding (i.e.	, PCS)			
Tran	saction	Code				NE	PES		yy/	mm/dd		Inspection 7	Гуре	Inspector Fac Type
1 <b>N</b>		2	3	RIR04	0007			12 <b>1</b>		0 6 2 3	1	17 18 <b>R</b>		19 <b>R</b> 20 <b>1</b>
21								Remarks						66
Inspec	ion Woı	rk Days			Facility Sel	lf-Mor	nitoring Evaluation Rating		В	1	QA			Reserved
67	1 .	0	69				70		71		72	73	74 75	80
NI=		-4:4	F:114 I		al (Eanlada	4 - ! - 1	Section E		lity D	ata		Fata Tia	/D - + -	D
include		name a			nit number)		users discharging to POTW, a	ISO				Entry Tin		Permit Effective Date
	rovider											Exit Time	e/Date	Permit Expiration Date
Namo/	c) of On	Sito Do	procent	ativo(c)/	Title(s)/Pho	no or	ad Eav Number(s)					Othor Ea	cility Data	
No repi	esenta	tives pr	esent o	notifie	d		d Fax Number(s) Fax Number.					Other Pa	cility Data	
									Г	Contac				
					0	0. /	Anna - Frankiska Domina - In			Yes	X No	l(1)		
					Section	$\overline{}$	Areas Evaluated During In:	spectio	n (Cr	ieck only t	nose areas	evaluated)		
X	Facility Effluen	ds/Repo Site Re	view ving Wat	ers			Self-Monitoring Program Compliance Schedules Laboratory Operations & Maintenance Sludge Handling/Disposal		X Si	retreatment ollution Prev torm Water ombined Se anitary Sewa	wer Overflow		X MS4	
			Sectio	n D: S	Summary	of Fi	ndings/Comments (Attach	additio	nal sl	heets of na	arrative and	checklists	as necess	ary)
					' <u></u>									
					] <u> </u>									
Inspect	ors par	ticipati	ng: Davi	d Turin	, EPA; Erin	Trai	rge locations. Flowing storn ner, EPA. Shop parking lot (Mineral Spr		-	_	-		-	
Name(	s) and S	Signature	e(s) of In	spector	(s)			Agency	//Office	e/Phone and	l Fax Number	rs		Date
David 3	urin							IIGED A	OES	- SEW 164	7_019_1500			06/27/2014
David 1 Signati		anagem	ent QA I	Reviewe	er					- <b>SEW / 61</b> 7 e/Phone and	<del>/-918-1598</del> I Fax Number	'S	1	<b>06/27/2011</b> Date
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YEFA	Water Compliance	Inspection Report		
		ata System Coding (i.e., PCS)		
Transaction Code	NDPES	yy/mm/dd	Inspection Type	Inspector Fac Type
1 N 2 3 RIR040007		1 12 11/8/2015 Remarks	17 18 <b>R</b>	19 <b>R</b> 20 <b>1</b>
21		Remarks		66
Inspec ion Work Days Facility Self-	Monitoring Evaluation Rating	B1 QA		- Reserved
67 <b>1</b> . <b>0</b> 69	70	71 72	73 74 75	80
		B: Facility Data		
Name and Location of Facility Inspected (For industinclude POTW name and NDPES permit number)	strial users discharging to POTW,	also	Entry Time/Date 10:00 AM	Permit Effective Date
Various locations			10.00 AW	
North Providence, RI			Exit Time/Date 3:00 PM	Permit Expiration Date
Name(s) of On-Site Representative(s)/Title(s)/Phon	e and Fax Number(s)		Other Facility Data	
No representatives present or notified				
Name, Address of responsible Official/Title/Phone a	and Fax Number.			
		Contacted		
		Yes X No		
Section (	C: Areas Evaluated During Ir	nspection (Check only those areas	s evaluated)	
Permit Records/Reports Facility Site Review Effluent/Receiving Waters	Self-Monitoring Program Compliance Schedules Laboratory Operations & Maintenance	Pretreatment Pollution Preven ion X Storm Water Combined Sewer Overflov	X MS-	4
Flow Measurement	Sludge Handling/Disposal	Sanitary Sewer Overflow	•	
Section D: Summary o	f Findings/Comments (Attach	additional sheets of narrative and	d checklists as neces	sary)
Unannounced reconnaissance of stormwater dis	charge locations. Flowing stor	mwater pines are being evaluated for	notantial futura complia	ance sampling inspections
EPA Inspectors participating: David Turin and Er	in Trainer.		•	
Sites evaluated: Stop and Shop parking lot (Mine Woonasquatucket Ave and Falco St. Heavy rain	eral Spring Ave); Vulturno St; Gi throughout day; moderate to hi	llen St; Jane St; Aldritch St; Woonasc gh flow volumes from all of the asses	quatucket Ave @ Allanda sed discharge pipes. Fe	ale Apts; and ollow-up meeting with Peter
Naumann of DEM, who is helping us coordinate				
Name(s) and Signature(s) of Inspector(s)		Agency/Office/Phone and Fax Number	ers	Date
David Turin		USEPA, OES - SEW / 617-918-1598		08/17/2011
Signature of Management QA Reviewer		Agency/Office/Phone and Fax Number	ers	Date

# North Providence

Stormwater Sampling August 16, 2011

Inspectors:

**David Turin** 

**Erin Trainor** 













YEFA	Water Compliance	Inspection Report		
	•	ata System Coding (i.e., PCS)		
Transaction Code	NDPES	yy/mm/dd	Inspection Type	Inspector Fac Type
1 N 2 3 RIR040007	11	1 12 11/08/16 Remarks	17 18 <	19 <b>R</b> 20 <b>1</b>
21	<u> </u>	Remarks		66
Inspec ion Work Days Facility Se	If-Monitoring Evaluation Rating	B1 QA	 I I I	Reserved
67 <b>1</b> . <b>0</b> 69	70	71 72	73 74 75	80
		B: Facility Data	T	T= . =# . =
Name and Location of Facility Inspected (For indinclude POTW name and NDPES permit number)	= =	also	Entry Time/Date 8:30 AM	Permit Effective Date
Various locations			0.00 7	
North Providence, RI			Exit Time/Date 1:00 PM	Permit Expiration Date
Name(s) of On-Site Representative(s)/Title(s)/Pho	one and Fax Number(s)		Other Facility Data	
No representatives present or notified				
Name, Address of responsible Official/Title/Phone	and Fax Number.			
		Contacted		
		Yes X No		
Section	C: Areas Evaluated During In	spection (Check only those areas	evaluated)	
Permit	Self-Monitoring Program	Pretreatment	X MS4	
Records/Reports Facility Site Review	Compliance Schedules Laboratory	Pollution Preven ion  X Storm Water		
Effluent/Receiving Waters	Operations & Maintenance	Combined Sewer Overflow		
Flow Measurement	Sludge Handling/Disposal	Sanitary Sewer Overflow		
Section D: Summary	of Findings/Comments (Attach	additional sheets of narrative and	d checklists as necess	ary)
_				
Unannounced stormwater MS4 sampling inspe	ction. EPA Inspectors participatir	ng: David Turin and Erin Trainer.		
Sites sampled: Vulturno St; Gillen St; Woonasc				
Samples analyzed on-site for NH3, surfactants, analysis. See inspection report	and TRC; samples sent to RI DOF	- lab for fecal collform and enterococ	ci; samples sent to OAM	E for pharmaceutical
Name(s) and Signature(s) of Inspector(s)		Agency/Office/Phone and Fax Number	rs	Date
		WOEDA OF O COMMISSION OF THE C		00/47/22::
David Turin Signature of Management QA Reviewer		USEPA, OES - SEW / 617-918-1598  Agency/Office/Phone and Fax Numbe	rs	<b>08/17/2011</b> Date
Signature of Management WA NEVIEWEI		Agency/Onice/Frione and Fax Number	10	Suic

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Inspec	ion Wo	rk Days			Facility	Self-Mo	nitoring	Evaluati	ion Rating	g			B1 <sub>.</sub>		QA					- Rese	rved -			
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includ	e POTW	name a	-		ed (For in mit numb		al users	discharg	ging to PO	WTC	, also						Entry Ti 8:15 AN		ate	Pe	∍rmit ∣	Effecti	ve D	ate
	s location																Exit Tim	ne/Da	te	Pe	ermit	Expira	tion	Date
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					/Title(s)/F	Phone a	and Fax I	Number	(s)								Other F	acility	Data					
No rep	resenta	tives pr	esent o	r notifie	ed																			
Name	Addres	s of resi	nonsible	Official	/Title/Pho	ne and	I Fay Nu	ımher																
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	l <sub>D</sub> :				Secu	JII C.	1				Inspectio	=			se are	as eva	alualeu)		MS <sup>2</sup>	4				
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	Facility	/ Site Re	eview				Labora	atory				X	Storm Wa	ater										
-			ving Wa	ters					Maintenan				Combine											
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			Section	n D: S	Summar	ry of F	indings	s/Comn	nents (A	ttac	ch additio	nal s	sheets c	of narr	ative a	nd ch	ecklists	as n	eces	sary)				
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	_																					_		
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•	Water Compliance Inspection Report																							
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Inspec	ion Wo	rk Days			Facility	Self-Mo	nitoring	Evaluati	ion Rating	g			B1 <sub>.</sub>		QA					- Rese	rved -			
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includ	e POTW	name a	-		ed (For in mit numb		al users	discharg	ging to PO	WTC	, also						Entry Ti 8:15 AN		ate	Pe	∍rmit ∣	Effecti	ve D	ate
	s location																Exit Tim	ne/Da	te	Pe	ermit	Expira	tion	Date
		•															12:45 P	M				•		
					/Title(s)/F	Phone a	and Fax I	Number	(s)								Other F	acility	Data					
No rep	resenta	tives pr	esent o	r notifie	ed																			
Name	Addres	s of resi	nonsible	Official	/Title/Pho	ne and	I Fay Nu	ımher																
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	Facility	/ Site Re	eview				Labora	atory				X	Storm Wa	ater										
-			ving Wa	ters					Maintenan				Combine											
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			Section	n D: S	Summai	ry of F	indings	s/Comn	nents (A	ttac	ch additio	nal s	sheets c	of narr	ative a	nd ch	ecklists	as n	eces	sary)				
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name	(s) and S	oignatur	e(S) Of Ir	ispectoi	(S)						Agency	//Uffi	ce/Phone	and F	ax inum	bers				Date				
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David Signat	Turin ture of M	lanagem	nent OA	Review	er							_	<b>S - SEW</b> ce/Phone						11/22/2011 Date					
Signa	5 51 141	agon									, (90110)	,, 5111		U I						_ 410				ſ

Inspector:_David Turin			
Inspection Date:Ma	arch 23, 2011		
Facility Name/Address:	:North Providence, various	us locations	
one contacted	and Address (if different from	•	
Facility Contact/Title a	nd Address (if different from f	•	
1. Media Type: (Chec			
☐ CAA-Stationary☐ CAA-NESHAP	☐ CAA-Mobile Source	□ CAA-112	r
☐ CWA-NPDES	☐ CWA-Pretreatment P	OTW 🗆 CWA-Pre	treatment IU
□ CWA 311	□ CWA 404	: CWA-Stor	mwater
□ EPCRA 313			
□ RCRA-C □ SDWA-UIC	□ RCRA-I □ SDWA-PWSS		
	□ TSCA-PCBs	☐ TSCA-Core ☐ T	SCA-AHERA
2. Did you observe de	ficiencies (potential violation	s) during the inspe	ction?
: Yes □ No			
3. If you observed def	ïciencies, did you communica	ate them to the faci	lity during the inspection
□ Yes : No			
4. Deficiencies observ	ed?		
Potential violation of a c	compliance schedule in an enforceable or	der.	
Potential failure to main	tain a record or failure to disclose a docu	ment.	
Potential failure to main	tain, inspect or repair equipment includir	ng meters, sensors, and reco	ording equipment.

Potential failure	to complete or submit a notification, report, certification, or manifest.
Potential failure	to obtain a permit, product approval, or certification.
Potential failure	to follow a required sampling or monitoring procedure or laboratory procedure.
Potential failure	to follow or develop a required management practice or procedure.
_X_ Potential failure	e to identify and manage a regulated waste or pollutant in any media.
Potential failure	to report regulated events such as spills, accidents, etc.
Potential incorre	ect use of a material (e.g., pesticide, waste, product, etc.) or use of improper or unapproved material.
Potential failure	to follow a permit condition(s).
deficiencies com	eve or see the facility take any actions during the inspection to address the municated to the facility?
$\square$ Yes $\square$	No : N/A only if #3 was NO.
,	only the action(s) actually observed/seen or write in a short description of the ional" section. (Check all that apply)
Action(s) taken	
Complete(d	) a Notification or Report
Correct(ed)	Monitoring Deficiencies
Correct(ed)	Record Keeping Deficiencies
Implemente	ed New or Improved Management Practices or Procedures
Improved P	follutant Identification (e.g., Labeling, Manifesting, Storage, etc.)
Reduced Po	ollution (e.g., Use Reduction, Industrial Process Change, Emissions or Discharge Change, etc.)
Request(ed)	a Permit Application or Applied for a Permit
Verified Co	empliance with Previously Issued Enforcement Action - Part or All Conditions
The following co Pollution" line w	mmon air or water pollutant(s) <b>should only be checked</b> if the "Reduced as checked.
Water: 9	Ammonia 9BOD 9COD 9TSS 9O/G 9Total Coliform 9D.O.
Ç	9 Metals 9 Cyanide 9 Other
	ONOX 9SO2 9PM 9VOC 9Metals 9HAPs 9CO Other

6. Did you provide general compliance assistance in accordance with the policy on the Role of the EPA Inspector in Providing Compliance Assistance During Inspections?								
$\square$ Yes	: No							
7. Did you provide site-specific compliance assistance in accordance with the policy on the Role of the EPA Inspector in Providing Compliance Assistance During Inspections?								
$\square$ Yes	: No							
of actions taken by	<b>al Information:</b> EPA inspectors may wish to provide a narrative description the facility or assistance to help the facility come into compliance. used in national or regional reports to provide examples of EPA inspection							
pipes are being eval	d reconnaissance of stormwater discharge locations. Flowing stormwater uated for potential future compliance sampling. Inspectors participating: Alex Rosenberg, EPA; Alex Pinto, RI DEM.							

Inspector:_David Turin									
Inspection Date:June 23, 2011									
Facility Name/Address:	North Providence, va	rious loca	ations						
Facility Manager/Title and one contacted	Address (if different fro	om facility	y address): _	Reconnaissance - no					
Facility Contact/Title and A	Address (if different from	•							
1. Media Type: (Check									
☐ CAA-Stationary	☐ CAA-Mobile Sour	rce	□ CAA-11	2r					
□ CAA-NESHAP									
□ CWA-NPDES	☐ CWA-Pretreatmen								
□ CWA 311			: CWA-Sto	ormwater					
□ EPCRA 313 □ RCRA-C	□ EPCRA N313 □ RCRA-I								
	□ SDWA-PWSS								
☐ TSCA-Lead Paint			A-Core	TSCA-AHERA					
2. Did you observe defici	encies (potential violat	ions) dur	ing the insp	ection?					
: Yes □ No									
3. If you observed deficie	encies, did you commu	nicate the	em to the fac	cility during the					
inspection?									
□ Yes : No									

4. De	efficiencies observed?
F	Potential violation of a compliance schedule in an enforceable order.
I	Potential failure to maintain a record or failure to disclose a document.
I	Potential failure to maintain, inspect or repair equipment including meters, sensors, and recording equipment.
I	Potential failure to complete or submit a notification, report, certification, or manifest.
F	Potential failure to obtain a permit, product approval, or certification.
F	Potential failure to follow a required sampling or monitoring procedure or laboratory procedure.
I	Potential failure to follow or develop a required management practice or procedure.
_X	Potential failure to identify and manage a regulated waste or pollutant in any media.
F	Potential failure to report regulated events such as spills, accidents, etc.
F	Potential incorrect use of a material (e.g., pesticide, waste, product, etc.) or use of improper or unapproved material.
F	Potential failure to follow a permit condition(s).
5 Dic	d you observe or see the facility take any actions during the inspection to address the tencies communicated to the facility?
5 Did defici	·
5 Did defici	Yes No : N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)
5 Did defici	Yes No : N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken
5 Did defici	Yes No No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  **Material**  **Complete(d) a Notification or Report*
5 Did defici	Hencies communicated to the facility?  Yes No No N/A only if #3 was No.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  M(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies
5 Did defici	Yes No No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  **Material**  **Complete(d) a Notification or Report*
5 Dic defici	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies
5 Dic defici	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures
5 Did defici	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures  Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)

The following common air or water pollutant(s) **should only be checked** if the "Reduced Pollution" line was checked.

Water:	9 Ammonia 9BOD 9COD 9TSS 9O/G 9Total Coliform 9D.O.
	9 Metals 9 Cyanide 9 Other
	Air: 9NOx 9SO2 9PM 9VOC 9Metals 9HAPs 9CO
	ovide general compliance assistance in accordance with the policy on the Role spector in Providing Compliance Assistance During Inspections?
□ Yes	: No
	ovide site-specific compliance assistance in accordance with the policy on the PA Inspector in Providing Compliance Assistance During Inspections?
□ Yes	: No
of actions taken	itional Information: EPA inspectors may wish to provide a narrative description in by the facility or assistance to help the facility come into compliance.  In y be used in national or regional reports to provide examples of EPA inspection
pipes are being participating: I Sites evaluated	unced reconnaissance of stormwater discharge locations. Flowing stormwater gevaluated for potential future compliance sampling inspections. Inspectors David Turin, EPA; Erin Trainer, EPA.  : Gillen St. and Randall St; Stop and Shop parking lot (Mineral Spring Ave); Pearl St; Hopkins Manor, 610 Smithfield St; Governor Notte Park.

Inspector:_David Turin								
Inspection Date:August 15, 2011								
Facility Name/Address:North Providence, various locations								
Facility Manager/Title and one contacted	l Address (if different from fac	cility address):Reconnaissanc	e - no					
Facility Contact/Title and	Address (if different from fact	ility address):						
1. Media Type: (Check	one)							
☐ CAA-Stationary	☐ CAA-Mobile Source	□ CAA-112r						
□ CAA-NESHAP								
☐ CWA-NPDES		$\Gamma W  \Box \ CWA$ -Pretreatment IU						
□ CWA 311		: CWA-Stormwater						
□ EPCRA 313								
□ RCRA-C □ SDWA-UIC	□ RCRA-I □ SDWA-PWSS							
		ΓSCA-Core □ TSCA-AHERA						
2. Did you observe defic	iencies (potential violations)	during the inspection?						
□ Yes : No								
3. If you observed defici	encies, did you communicate	e them to the facility during the						
inspection?								
□ Yes □ No								

Po	tential violation of a compliance schedule in an enforceable order.
Po	tential failure to maintain a record or failure to disclose a document.
Po	tential failure to maintain, inspect or repair equipment including meters, sensors, and recording equipment.
Po	tential failure to complete or submit a notification, report, certification, or manifest.
Pot	ential failure to obtain a permit, product approval, or certification.
Po	tential failure to follow a required sampling or monitoring procedure or laboratory procedure.
Po	tential failure to follow or develop a required management practice or procedure.
Pot	ential failure to identify and manage a regulated waste or pollutant in any media.
Po	tential failure to report regulated events such as spills, accidents, etc.
Po	tential incorrect use of a material (e.g., pesticide, waste, product, etc.) or use of improper or unapproved material.
Po	tential failure to follow a permit condition(s).
If Y	Yes $\square$ No : N/A only if #3 was NO.  ES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)
	(s) taken
	(s) taken Complete(d) a Notification or Report
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures  Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures  Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)  Reduced Pollution (e.g., Use Reduction, Industrial Process Change, Emissions or Discharge Change, etc.)
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures  Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)  Reduced Pollution (e.g., Use Reduction, Industrial Process Change, Emissions or Discharge Change, etc.)  Request(ed) a Permit Application or Applied for a Permit
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures  Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)  Reduced Pollution (e.g., Use Reduction, Industrial Process Change, Emissions or Discharge Change, etc.)

The following common air or water pollutant(s) **should only be checked** if the "Reduced Pollution" line was checked.

onia 9BOD 9COD 9TSS 9O/G 9Total Coliform 9D.O.
9Cyanide 9 Other
NOx 9SO2 9PM 9VOC 9Metals 9HAPs 9CO
eral compliance assistance in accordance with the policy on the Role Providing Compliance Assistance During Inspections?
o .
specific compliance assistance in accordance with the policy on the or in Providing Compliance Assistance During Inspections?
0
ormation: EPA inspectors may wish to provide a narrative description cility or assistance to help the facility come into compliance. In national or regional reports to provide examples of EPA inspection ance of stormwater discharge locations. Flowing stormwater pipes are tial future compliance sampling inspections. EPA Inspectors and Erin Trainer. Sites evaluated: Stop and Shop parking lot alturno St; Gillen St; Jane St; Aldritch St; Woonasquatucket Ave @ nasquatucket Ave and Falco St. Heavy rain throughout day; moderate mall of the assessed discharge pipes. Follow-up meeting with Peter s helping us coordinate bacteria sample analysis by RI DOH of samples lie.

Inspector:_David Turin		
Inspection Date:Augu	st 15, 2011	-
Facility Name/Address:	North Providence, various loc	ations
Facility Manager/Title and one contacted	Address (if different from facilit	y address):Reconnaissance - no
Facility Contact/Title and	Address (if different from facility	address):
1. Media Type: (Check	one)	
□ CAA-Stationary	☐ CAA-Mobile Source	□ CAA-112r
□ CAA-NESHAP		
□ CWA-NPDES		
□ CWA 311 □ EPCRA 313	□ CWA 404 □ EPCRA N313	: CWA-Stormwater
□ RCRA-C	□ RCRA-I	
	□ SDWA-PWSS	
	□ TSCA-PCBs □ TSC	A-Core   TSCA-AHERA
2. Did you observe defici	encies (potential violations) du	ring the inspection?
: Yes □No		
3. If you observed deficion	encies, did you communicate th	em to the facility during the
inspection?		
□ Yes : No		

4. De	efficiencies observed?
]	Potential violation of a compliance schedule in an enforceable order.
1	Potential failure to maintain a record or failure to disclose a document.
1	Potential failure to maintain, inspect or repair equipment including meters, sensors, and recording equipment.
]	Potential failure to complete or submit a notification, report, certification, or manifest.
_Xl	Potential failure to obtain a permit, product approval, or certification.
1	Potential failure to follow a required sampling or monitoring procedure or laboratory procedure.
1	Potential failure to follow or develop a required management practice or procedure.
_X_l	Potential failure to identify and manage a regulated waste or pollutant in any media.
]	Potential failure to report regulated events such as spills, accidents, etc.
1	Potential incorrect use of a material (e.g., pesticide, waste, product, etc.) or use of improper or unapproved material.
]	Potential failure to follow a permit condition(s).
5 Die	d you observe or see the facility take any actions during the inspection to address the fencies communicated to the facility?
5 <b>Di</b> cilefic	iencies communicated to the facility?  Yes
5 Did defici	iencies communicated to the facility?  ☐ Yes ☐ No : N/A only if #3 was NO.
5 Die defici If action	iencies communicated to the facility?  Yes
5 Die defici If action	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)
5 Die defici If action	Yes No NA only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken
5 Die defici If action	Yes No NA only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report
5 Die defici If action	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies
5 Die defici If action	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies
5 Die defici If action	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures
5 Die defic	Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report Correct(ed) Monitoring Deficiencies Correct(ed) Record Keeping Deficiencies Implemented New or Improved Management Practices or Procedures Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)

The following common air or water pollutant(s) **should only be checked** if the "Reduced Pollution" line was checked.

Water:	9 Ammonia 9BOD 9COD 9TSS 9O/G 9Total Coliform 9D.O.
	9 Metals 9 Cyanide 9 Other
1	Air: 9NOx 9SO2 9PM 9VOC 9Metals 9HAPs 9CO 9Other
	ovide general compliance assistance in accordance with the policy on the Role pector in Providing Compliance Assistance During Inspections?
□ Yes	: No
	ovide site-specific compliance assistance in accordance with the policy on the A Inspector in Providing Compliance Assistance During Inspections?
□ Yes	: No
of actions taken	tional Information: EPA inspectors may wish to provide a narrative description by the facility or assistance to help the facility come into compliance.  The beginning by the facility or assistance to help the facility come into compliance.  The beginning the beginning of the be
and Erin Traine Sites sampled: Woonasquatuck analyzed on-site	tormwater MS4 sampling inspection. EPA Inspectors participating: David Turin er.  Vulturno St; Gillen St; Woonasquatucket Ave @ Allandale Apts; and set Ave and Falco St. Partly sunny, temp. mid-60s throughout day. Samples er for NH3, surfactants, and TRC; samples sent to RI DOH lab for fecal coliform; samples sent to OAME for pharmaceutical analysis. See inspection

# EPA Region 1 Clean Water Act Inspection Data Entry Form: 3560EZ

Inspector:		Erin Trainor		Date form completed:		9/18/2013			
Section A:	Facility In	formati	ion						
Inspection	start date:		9/17/2013		Inspection end date (if more than one day): 9/17/2013		013		
NPDES ID	):		RIR040000		Federal facility? No				
Name and	Location of	Facility	Inspected:						
	Name:		Town of North Providence, RI MS4						
	Address:		Various MS4 catch basins and outfalls						
	City:		North Providence		State:	RI	ZIP:	02911	
Facility Or	n-Site Repres	sentative #1:							
	Name:		Enter text						
	Title:		Enter text						
	Phone #:		Enter text	Fax	x # / email:	Enter text			
Facility Or	n-Site Repres	sentativ	e #2 (if necessary):						
	Name:		Enter text						
	Title:		Enter text						
	Phone #:		Enter text	Fa	x # / email:	Enter text			
Section B:	Complianc	e Moni	toring Information						
Complianc	e Monitorin	g Activ	ity Name:	Re	con				
Clean Wat	er Act Section	on (cho	ose from only one of the fol	lowi	ng):				
	CWA §308	308[A][B]: NPDES			Stormwater - MS4				
	CWA §311: Oil and Hazardous Substances		Choose an item						
	CWA §404: Permits for Dredge and Fill Material			Choose an item					
Compliance Monitoring Type:		Reconnaissance							
Complianc	e Monitoring Reason: Agency Priority								
If Agency Priority, then specify priority(s):									
		OECA	DECA - CAFO						
		OECA	A - CAFO Region Initiative Areas						
		OECA	DECA - CSOs w/ < 50,000 service population						
		OECA - CSOs w/ >= 50,000 service population							
		OECA - MS4s Phase I							
		OECA - MS4s Phase II						$\boxtimes$	
		Region 1 - Environmental Justice							
		Region 1 - Green Economy / Green Infrastructure							
		Region 1 - Industrial Laundries							
		Region 1 - Lead Poisoning							
	Region 1 - Municipal Infrastructure								

Pagion 1 Pollution Provention & Pageures Consequation					
	Region 1 - Pollution Prevention & Resource Conservation  Region 1 - Ship / Boat Yards				
Region 1 - Wet Weather					
Compliance Monitoring Agency Type:					
	EPA No				
Was this a Joint Compliance Monitoring Activity?	n or leave blank if N/A				
	· · · · · · · · · · · · · · · · · · ·				
If State lead, what was the purpose of EPA participation?	n or leave blank if N/A				
Section C: ICDS Information					
Did you observe deficiencies (potential violations) during the inspection?		Yes			
Potential excess emission in violation of regulations:					
Potential failure to complete or submit a notification, report, certification, or m	nanifest:				
follow a permit condition(s):					
follow a required sample monitoring procedure or laborator	ry procedure:				
follow or develop a required management practice or proce					
identify and manage a regulated waste or pollutant in any n					
maintain a record or failure to disclose a document:					
maintain/inspect/repair meters, sensors, and recording equi					
obtain a permit, product approval, or certification:					
report regulated events such as spills, accidents, etc.:					
Potential incorrect use of a material (pesticide, waste, product) unapproved material:					
Potential violation of a compliance schedule in an enforceable					
If you observed deficiencies, did you communicate the deficiencies to the the inspection?	Facility during	No			
If yes, did you observe the Facility take any actions during the address the deficiencies noted?	Choose an item				
If yes, what actions were taken? Choose an item					
If the Facility reduced pollution, what pollutant was	Enter text				
Did you provide general compliance assistance in accordance with the pol of the EPA inspector in providing compliance assistance during inspection	No				
Did you provide site-specific compliance assistance in accordance with the role of the EPA inspector in providing compliance assistance during inspector.	No				
Comments: A reconnaissance was conducted to locate potential sample locations in ar	n upcoming MS4	4 sampling inspection.			

## North Providence – Follow-up PPCP Sampling Tentatively scheduled for Nov 9, 2011

## Potential sampling stations:

- 1. Pearl Av (010)
- 2. Stream btw David and Spicer Sts (access from David St, behind bar and grill on Mineral Sp)
- 3. Stream btw Milton and Rosedale Sts, at Fruit Hill Av, op. RI College
- 4. Outfall nr end of driveway on Woonasquatucket Av, to left and opp. Metcalf Av, if found
- 5. Culverts behind Peter Blackburne, Inc, nr Falco St (014 A),
- 6. And Falco St (014 B), if both pipes flowing
- 7. Behind Cumberland Farms @ Smith St and Rt 104, if flowing
- 8. Mill St, behind post office or between P.O. and Steere Av, if found
- 9. Brook Farm Rd (019), nr Douglas Av (Rt 7)
- 10. Obed St (003), off Charles St, if flowing
- 11. Culverts under Mineral Spring Av, if accessible
- 12. Gillen Av (005 C)
- 13. Gillen Ave (005 A, if flowing)

## North Providence – Follow-up PPCP Sampling Tentatively scheduled for Nov 9, 2011

## Potential sampling stations:

- 1. Pearl Av (010)
- 2. Stream btw David and Spicer Sts (access from David St, behind bar and grill on Mineral Sp)
- 3. Stream btw Milton and Rosedale Sts, at Fruit Hill Av, op. RI College
- 4. Outfall nr end of driveway on Woonasquatucket Av, to left and opp. Metcalf Av, if found
- 5. Culverts behind Peter Blackburne, Inc, nr Falco St (014 A),
- 6. And Falco St (014 B), if both pipes flowing
- 7. Behind Cumberland Farms @ Smith St and Rt 104, if flowing
- 8. Mill St, behind post office or between P.O. and Steere Av, if found
- 9. Brook Farm Rd (019), nr Douglas Av (Rt 7)
- 10. Obed St (003), off Charles St, if flowing
- 11. Culverts under Mineral Spring Av, if accessible
- 12. Gillen Av (005 C)
- 13. Gillen Ave (005 A, if flowing)



DATE: October 18, 2013

SUBJ: MS4 Reconnaissance Inspection

Town of North Providence, Rhode Island

FROM: Erin Trainor, Inspector

TO: File

REQUESTED BY: Dave Turin (OES)

I. <u>Background Information</u>

A. Date, Time of inspection: Tuesday, September 17, 2013, 12:00 PM

B. Weather Conditions: Sunny, approximately 60 degrees F

C. USEPA Representatives: Erin Trainor

David Turin Denny Dart

D. Site Representative(s): Glenn J. Corrente

Department of Public Works

2 Mafalda Street

North Providence, RI 02904 Telephone: (401) 233-1440

Fax: (401) 233-1442

Note: The Site Representative was not contacted.

E. Address: Various locations associated with the outfall located at 457

Woonasquatucket Avenue as well as areas along Kristen Drive and Gillen Avenue within the Town of North Providence, Rhode Island municipal separate storm sewer

system (MS4).

#### II. Purpose of Inspection

The purpose of the inspection was to locate potential sample areas which were identified by the Municipal Mapping Assistance Program as areas with possible illicit connections or illegal discharges that may adversely impact the water quality in the Woonasquatucket River.

#### III. <u>Inspection Observations and Findings</u>

On Tuesday, September 17, 2013, EPA inspectors David Turin, Denny Dart, and Erin Trainor met with Jennifer Stout and Eric Beck of Rhode Island Department of Environmental Management (RIDEM). Inspectors reviewed areas assessed by the Municipal Mapping Assistance Program which were recommend to EPA as potential areas to sample within the Town of North Providence based on observations collected over the course of summer 2013. Inspectors then conducted a reconnaissance inspection within the Town of North Providence at locations associated with the outfall identified as "priority outfall" located at 457 Woonasquatucket Avenue, as well as areas along Kristen Drive and Gillen Avenue.

The inspectors met with RIDEM personnel at 08:40, and the inspection started in North Providence at 12:00 PM. At the time of the inspection the weather was sunny and approximately 60 degrees Fahrenheit. According to weather underground, a rain event rain event of 0.08 inches was reported on September 16, 2013 in Providence, Rhode Island. Photographs are included at the end of this report.

End of Report

Attachments: Photographs



"Priority outfall" located at 457 Woonasquatucket Avenue. The outfall depicted on the left measures approximately 36 inches in diameter, the outfall depicted in the middle measures approximately 8 inches in diameter, and the outfall depicted on the right measures approximately 48 inches in diameter.



Paper observed downstream of the "priority outfall".



Catch basin along Woonasquatucket Avenue which leads to the 48 inch outfall at the "priority outfall". Running water was heard at catch basin.



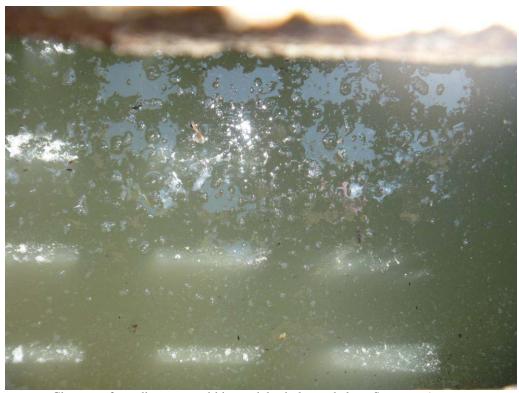
Access manhole that leads to 36 inch outfall at the "priority outfall".



Catch basin and access manhole located at 25 Whipple Road, upstream of the "priority outfall". A trickle was heard upstream.



Catch basin located along Sampson Avenue, upstream of the "priority outfall".



Close up of standing water within catch basin located along Sampson Avenue.



View of standing water located within catch basin in front of 11 Kristen Drive.



Three outfalls located along Gillen Avenue. Note: the outfall depicted on the right has had historical contamination documented by EPA in 2011, identified as "005C".



Paper observed downstream of outfall "005C".

## MUNICIPAL STORMWATER SEWER SYSTEM NORTH PROVIDENCE, RHODE ISLAND

Sampling of Stormwater Outfalls for Bacteria and Pharmaceuticals and Personal Care Products

> Sampling & Analysis Plan (SAP) August 2011

U.S. Environmental Protection Agency
EPA New England
Office of Environmental Measurement & Evaluation
Environmental Investigations & Analysis Unit

Project Manager: Dave Turin	
Signature:	Date:
EIA Field Sampling Leader: Erin Trainor	
Signature: C. P. P.	Date: 8/12/2011
EIA Field Team Leader: Jerry Keefe	
Signature:	Date: 8/18/11
Laboratory Acceptance: Dan Boudreau	. 7
Signature: Wat Buline	Date: 8/21/11

- Project Name: Sampling of Stormwater Outfalls for Bacteria and Pharmaceuticals and Personal Care Products at
- 2. Project Requested By: EPA's Office of Environmental Stewardship (OES)

3. Date of Request: June 7, 2011

4. Date of Project Initiation: August 2011

5. Project Manager: Dave Turin

6. Quality Assurance Officer: TBD

7. Project Description

#### A. Objective and Scope Statement:

The Office of Environmental Measurement & Evaluation (OEME) environmental investigations and analysis team (EIA) was requested to assist with water sampling within North Providence, Rhode Island. Utilizing the stormwater outfall sampling protocol developed by the Office of Environmental Stewardship (OES), samples will be collected from stormwater outfalls for the purpose of identifying illicit connections to stormwater system outfalls. EIA staff will sample eight outfalls located in the Town of North Providence. The outfalls will be screened in the field using test kits for ammonia, chlorine, and surfactants, and analyzed at the EPA New England Regional Laboratory (NERL) for E.Coli, Enteracoccus, and Pharmaceuticals and Personal Care Products (PPCP). Additional sampling and analysis may be performed at the discretion of EIA field staff and recorded in the site field logbook.

#### B. Data Usage:

Data will be used to assess levels of contamination, and to confirm the presence (or absence) of contaminants at a stormwater discharge point. Site observations, documentation, and results of sampling during these inspections will be forwarded to the OES enforcement staff for enforcement actions and information requests.

#### C. Sampling Event Design:

EIA will conduct the stormwater monitoring on August 16, 2011. Stormwater samples will be collected under guidance of EPA's Ambient Water Sampling Standard Operating Procedure (SOP) (ECASOP-Water1). Samples will be collected as grab samples. Stormwater samples will be field screened for ammonia under guidance of EPA's SOP for Measuring Ammonia using Ammonia 0-6.0mg/L (Nitrogen) Hach® 0-6.0mg/L Test Kit (EIASOP-Test Strip1), for chlorine under guidance of EPA's SOP for Measuring Pocket Colorimeter Analysis System Low Range (0.0-2.00 mg/L) - Free and Total Chlorine High Range (0.0-4.5 mg/L) - Total Chlorine (ECASOP-ChlorineSOP1), and for surfactants under guidance of EPA's SOP for Measuring Detergents using Detergents CHEMets 0-3 ppm Test Kit (ECASOP-DetergentsSOP1). Sample sites will be located using GPS, with an accuracy goal of  $\pm 1$  meter and Position Dilution of Precision (PDOP) less than 6. Less accurate GPS reading or coordinates from maps will be

accepted when site or other conditions do not allow  $\pm$  1 meter accuracy. EIA staff will conduct in-situ monitoring for temperature, conductivity, and dissolved oxygen (DO) using a YSI model 6 sonde under guidance of the OEME EMT SOP for YSI Model 6-Series Sondes and Data Logger SOP (ECASOP-YSISondes10) and/or another approved in situ monitor.

Field OC samples will consist of the following:

Calibration:

EPA will calibrate its sondes according to the EPA sonde calibration SOP.

Field duplicate:

One duplicate sample will be collected per sampling event or

approximately for every ten samples.

Trip Blank:

OEME Chemist will run appropriate QA samples for PPCP's. One blank sample will be collected for approximately every ten bacteria samples. Reported data that is less than 5 times the trip (field) blank concentration

will be flagged.

QC Criteria:

Data not meeting this criteria will be reviewed by the Project Manager.

Data that does not meet laboratory QA/QC criteria will be flagged by the

laboratory.

D. Monitoring Parameters and Frequency of Collection:

Parameter	Number of Samples	Sample Matrix	Lab SOP (LIMS code)	Sample Container	Sample Preservation	Holding Time
Fecal Coliform	8 + 1 field dup.	Water	ECASOP-TC/EC Colilert2	120 mL sterile	Ice to 6°C	8 hours
Enterococcus	8+1 field dup.	Water	ECASOP-Enterolert1	120 mL sterile	Ice to 6°C	6 hours
PPCP	8	Water	EIASOP-LCMS- STAO	1 L glass amber	Ice to 4°C (acidified in lab)	7 days to extraction 40 days after extraction

#### 8. Schedule of Tasks and Products:

Date	Activity
June 2011	Request OEME field and lab support
August 2011	Sample Collection
August 2011	Sample analyses at NERL
September 2011	Deliver analytical results to Project Manager

#### 9. Project Organization and Responsibility:

The following is a list of key project personnel and their responsibilities:

Responsibility Contact
Project Officer Dave Turin

Sampling Leader/Inspector Erin Trainor (EIA)
Sampling QC/Inspector Erin Trainor (EIA)
Chemistry Lead Dan Boudreau (EIA)

Laboratory Analyses EPA NE Lab chemistry staff

Data Evaluation/Lab QC
Performance Audits/QC
Dan Boudreau (EIA)
None requested at this time

#### 11. Data Quality Objectives:

Accuracy and Precision values are for method internal QA/QC. The values are to be considered as goals because some specific compounds are known outside these goals.

Parameter	Sample Matrix	Reporting Limits	Accuracy (%)	Precision <sup>2</sup> (%)
E.Coli	Water	4 col/100mL	ECASOP- TotalColiformMF2	± 100 col/100mL or 30% RPD
Enterococcus	Water	1 col/100mL	TBD	± 100 col/100mL or 30% RPD
Caffeine	Water	5.0 ng/L	TBD	< 50% RPD
1,7-DMX	Water	2.5 ng/L	TBD	< 50% RPD
Acetaminophen	Water	2.5 ng/L	TBD	< 50% RPD
Carbamazepine	Water	0.5 ng/L	TBD	< 50% RPD
Primidone	Water	5.0 ng/L	TBD	< 50% RPD
Atenolol	Water	2.5 ng/L	TBD	< 50% RPD
Cotinine	Water	0.5 ng/L	TBD	< 50% RPD
Urobilin	Water	5.0 ng/L	TBD	< 50% RPD
Azithromycin	Water	1.6 ng/L	TBD	< 50% RPD

#### Footnotes:

- 1. Accuracy is based on a lab matrix spike (MS) recovery.
- 2. Precision is based on a lab duplicate, matrix spike duplicate (MSD), and/or laboratory fortified blanks (LFB).

#### 12. Data Representativeness/Comparability:

Samples must be representative of the stormwater discharges. The analytical data will be compared to Water Quality Criteria/Guideline to assess compliance. 90% of the data must be valid. If data are incomplete, the Project Manager and EIA Team Leader will determine if additional sampling is needed.

#### 13. Sampling Procedures

Samples will be collected according to the OEME EMT SOP for Ambient Water Sampling (ECASOP-Water1). Samples will be collected as grab samples. On the occasion that field personnel determine that any of the procedures described in this SAP or SOPs are inappropriate, inadequate or impractical and that another procedure must be used to obtain a sediment or water sample, the procedure will be documented in the field log book with a description of the circumstances requiring its use.

#### 14. Sample Custody Procedures:

Samples collected will be handled in accordance with the OEME SOP for Evidence and Sample Management (OEMESOP-EVIDENCEMANAGEMENT3). Each sample will be given a unique identification number which corresponds with the assigned monitoring well number. Samples will be handled by EIA chemistry staff according to the SOP for Sample Login, Tracking, and

Sample Disposition (EIASOP-ADMLOG15.SOP).

#### 16. Documentation and Data Reduction, and Reporting:

All information will be recorded in the samplers log books, or on field data sheets, in addition to completion of all chain of custody forms, labels, etc. Any photographs taken will be documented in the field log book and included in the inspection report. Analytical data will be tabulated by the laboratory and reported to the Project Manager in accordance to NERL procedures and the NERL QAPP. EIA field reporting will be in accordance with EIA's report SOP [EIASOP\_Report Prep\_Review\_Distribution]

#### 17. Data Validation:

Data will be reviewed by routine laboratory procedures as specified in the NERL QAPP - 3/31/2010, Section 11 Data Reduction, Reporting, and Internal Verification. Data will be validated against the criteria presented in sections 7D, 11, and 12 of this SAP. Any limitations on the use of data will be documented and explained. Field data will be compiled and reviewed by the Sampling Leader and any corrective actions or issues that are needed will be brought to the EIA Team Leader.

#### 18. Performance and Systems Audits:

May be performed by the QA Office as requested by the Project Manager.

#### 19. Corrective Action:

Any corrective action will be determined by the Sampling Leader and documented in the field logbook as necessary and discussed with the Project Manager and EIA team leader.

20. Inspection and Analytical Reports will be sent to: Dave Turin, OES - Water Technical Unit

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Water Compliance Inspection Report			
Section A: Nationa	I Data System Coding (i.e., PCS)		
Transaction Code NDPES	yy/mm/dd	Inspection Type Ir	nspector Fac Type
1 N 2 3 RIR040007	11 12 <b>12/5/31</b> Remarks	17 18 <b>R</b> 1	9 <b>R</b> 20 <b>1</b>
21			66
Inspec ion Work Days Facility Self-Monitoring Evaluation Rating 67 1 . 0 69 70	B1 QA	73 74 75	Reserved
	on B: Facility Data		<u> </u>
Name and Location of Facility Inspected (For industrial users discharging to POT include POTW name and NDPES permit number)  Various locations	W, also	Entry Time/Date 1:00 PM  Exit Time/Date	Permit Effective Date
North Providence, RI		1:30 PM	Permit Expiration Date
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)  No representatives present or notified		Other Facility Data	
Name, Address of responsible Official/Title/Phone and Fax Number.	Contacted Yes X No	nugliusia di	
	g Inspection (Check only those areas e		
Permit Self-Monitoring Program Records/Reports Compliance Schedules Facility Site Review Laboratory  X Effluent/Receiving Waters Operations & Maintenance Flow Measurement Sludge Handling/Disposal	Sanitary Sewer Overflow	X MS4	
Section D: Summary of Findings/Comments (Attach additional sheets of narrative and checklists as necessary)			
Unannounced reconnaissance of stormwater discharge locations. Sites inspected: Gillen St; Pearl St. Test strip screening for Chlorine and Total Phosphorus was performed at 3 discharge pipes at Gillen St; all test results were zero. Pearl Street was not discharging.			
Name(s) and Signature(s) of Inspector(s)	Agency/Office/Phone and Fax Numbers	D	ate
David Turin	USEPA, OES - SEW / 617-918-1598		06/07/2012
Signature of Management QA Reviewer	Agency/Office/Phone and Fax Numbers	D	ate

## **Inspection Conclusion Data Sheet (ICDS)**

#### FY2011

Inspector:_David Turin		
Inspection Date:June 2	23, 2011	
Facility Name/Address:	North Providence, various loc	cations
Facility Manager/Title and one contacted	l Address (if different from facili	ty address):Reconnaissance - no
Facility Contact/Title and	Address (if different from facility	y address):
1. Media Type: (Check	one)	
□ CAA-Stationary	☐ CAA-Mobile Source	□ CAA-112r
☐ CAA-NESHAP		
☐ CWA-NPDES		
□ CWA 311	□ CWA 404	: CWA-Stormwater
□ EPCRA 313		
□ RCRA-C	□ RCRA-I	
<ul><li>□ SDWA-UIC</li><li>□ TSCA-Lead Paint</li></ul>	□ SDWA-PWSS □ TSCA-PCBs □ TSC	CA-Core   TSCA-AHERA
2. Did vou observe defic	iencies (potential violations) du	ring the inspection?
: Yes □ No	<b>4</b>	
3. If you observed defici	encies, did you communicate th	nem to the facility during the
inspection?		
□ Yes : No		

Potential v	violation of a compliance schedule in an enforceable order.
Potential f	ailure to maintain a record or failure to disclose a document.
Potential f	Cailure to maintain, inspect or repair equipment including meters, sensors, and recording equipment.
Potential f	ailure to complete or submit a notification, report, certification, or manifest.
Potential f	ailure to obtain a permit, product approval, or certification.
Potential f	ailure to follow a required sampling or monitoring procedure or laboratory procedure.
Potential f	ailure to follow or develop a required management practice or procedure.
_X Potential	failure to identify and manage a regulated waste or pollutant in any media.
Potential f	ailure to report regulated events such as spills, accidents, etc.
Potential i	ncorrect use of a material (e.g., pesticide, waste, product, etc.) or use of improper or unapproved material.
	Failure to follow a permit condition(s).
•	bserve or see the facility take any actions during the inspection to address the communicated to the facility?
•	· · ·
eficiencies  ☐ Yes  If YES, cl	communicated to the facility?  No: N/A only if #3 was NO.  heck only the action(s) actually observed/seen or write in a short description of the
□ Yes  If YES, cl	communicated to the facility?  □ No : N/A only if #3 was NO.
☐ Yes  If YES, cleation in the	communicated to the facility?  No: N/A only if #3 was NO.  heck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)
☐ Yes  If YES, cletion in the	communicated to the facility?  No: N/A only if #3 was NO.  heck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken
☐ Yes  If YES, clection in the Action(s) tal	communicated to the facility?  No: N/A only if #3 was NO.  heck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report
☐ Yes  ☐ Yes  ☐ YES, cleation in the cation(s) tal  ☐ Correction(s)	communicated to the facility?  No: N/A only if #3 was NO.  heck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report ct(ed) Monitoring Deficiencies
☐ Yes  ☐ Yes  ☐ YES, cleation in the cetion(s) tale  ☐ Correction Correction Correction	communicated to the facility?  No: N/A only if #3 was NO.  heck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report  ct(ed) Monitoring Deficiencies  ct(ed) Record Keeping Deficiencies
Figure 2 of the length of the	communicated to the facility?  No: N/A only if #3 was NO.  heck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report  et(ed) Monitoring Deficiencies  et(ed) Record Keeping Deficiencies  mented New or Improved Management Practices or Procedures
eficiencies  Yes  If YES, cleation in the extion(s) tal  Correct Correct Implementation	communicated to the facility?  No: N/A only if #3 was NO.  heck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report  ct(ed) Monitoring Deficiencies  ct(ed) Record Keeping Deficiencies  mented New or Improved Management Practices or Procedures  ved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)
If YES, cletion in the Action(s) tale Correct Implementation (Correct Improduced Reduced Reduced Reduced Reduced Research Researc	communicated to the facility?  No: N/A only if #3 was NO.  heck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report  et(ed) Monitoring Deficiencies  et(ed) Record Keeping Deficiencies  mented New or Improved Management Practices or Procedures

The following common air or water pollutant(s) **should only be checked** if the "Reduced Pollution" line was checked.

Water:	9 Ammonia 9BOD 9COD 9TSS 9O/G 9Total Coliform 9D.O.
	9 Metals 9 Cyanide 9 Other
	ir: 9NOx 9SO2 9PM 9VOC 9Metals 9HAPs 9CO
	vide general compliance assistance in accordance with the policy on the Role pector in Providing Compliance Assistance During Inspections?
$\square$ Yes	: No
	vide site-specific compliance assistance in accordance with the policy on the Anspector in Providing Compliance Assistance During Inspections?
$\square$ Yes	: No
of actions taken	<b>ional Information:</b> EPA inspectors may wish to provide a narrative description by the facility or assistance to help the facility come into compliance. be used in national or regional reports to provide examples of EPA inspection
pipes are being e participating: Da Sites evaluated:	nced reconnaissance of stormwater discharge locations. Flowing stormwater evaluated for potential future compliance sampling inspections. Inspectors avid Turin, EPA; Erin Trainer, EPA.  Gillen St. and Randall St; Stop and Shop parking lot (Mineral Spring Ave); Pearl St; Hopkins Manor, 610 Smithfield St; Governor Notte Park.

# North Providence

Stormwater Sampling August 16, 2011

Inspectors:

**David Turin** 

**Erin Trainor** 











# North Providence

Stormwater Sampling August 16, 2011

Inspectors:

**David Turin** 

**Erin Trainor** 











## **Inspection Conclusion Data Sheet (ICDS)**

### FY2011

Inspector:_David Turin		
Inspection Date:Nove	mber 16, 2011	
Facility Name/Address:	North Providence, various loc	cations
Facility Manager/Title and one contacted	Address (if different from facil	ity address):Reconnaissance - no
-	Address (if different from facilit	
1. Media Type: (Check		
☐ CAA-Stationary	☐ CAA-Mobile Source	□ CAA-112r
□ CAA-NESHAP		
□ CWA-NPDES □ CWA 311	<ul><li>☐ CWA-Pretreatment POTW</li><li>☐ CWA 404</li></ul>	✓ ☐ CWA-Pretreatment IU  ☐ CWA-Stormwater
□ EPCRA 313		△ CWA-Stormwater
□ RCRA-C	□ RCRA-I	
□ SDWA-UIC	$\square$ SDWA-PWSS	
☐ TSCA-Lead Paint	□ TSCA-PCBs □ TSC	CA-Core    TSCA-AHERA
2. Did you observe defici	encies (potential violations) du	ring the inspection?
□ Yes ⊠No		
3. If you observed deficient	encies, did you communicate tl	nem to the facility during the
inspection?		
□ Yes □ No		

4. Deficiend	nes observed?
Potential	violation of a compliance schedule in an enforceable order.
Potential	failure to maintain a record or failure to disclose a document.
Potential	failure to maintain, inspect or repair equipment including meters, sensors, and recording equipment.
Potential	failure to complete or submit a notification, report, certification, or manifest.
Potential f	ailure to obtain a permit, product approval, or certification.
Potential	ailure to follow a required sampling or monitoring procedure or laboratory procedure.
Potential	failure to follow or develop a required management practice or procedure.
Potential f	ailure to identify and manage a regulated waste or pollutant in any media.
Potential	failure to report regulated events such as spills, accidents, etc.
Potential	ncorrect use of a material (e.g., pesticide, waste, product, etc.) or use of improper or unapproved material.
Potential	failure to follow a permit condition(s).
5 Did you o	bserve or see the facility take any actions during the inspection to address the communicated to the facility?
5 Did you o	• • •
5 Did you of deficiencies    Yes  If YES, che	communicated to the facility?
5 Did you of deficiencies     Yes  If YES, che action in the	communicated to the facility?  ☐ No ☒ N/A only if #3 was NO.  ck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)
5 Did you of deficiencies  \( \sum \text{Yes} \)  If YES, che action in the \( \text{Action(s) ta} \)	communicated to the facility?  ☐ No ☒ N/A only if #3 was NO.  ck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)
5 Did you of deficiencies  Section in the dection in the Comp	communicated to the facility?  □ No ☑ N/A only if #3 was NO.  ck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken
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5 Did you of deficiencies  Yes  If YES, che action in the  Action(s) ta  Comp  Correct Imple	communicated to the facility?  No No N/A only if #3 was NO.  ck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report ct(ed) Monitoring Deficiencies ct(ed) Record Keeping Deficiencies
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5 Did you of deficiencies	communicated to the facility?  No N/A only if #3 was NO.  ck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report  ct(ed) Monitoring Deficiencies  ct(ed) Record Keeping Deficiencies  mented New or Improved Management Practices or Procedures  ved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)

The following common air or water pollutant(s) **should only be checked** if the "Reduced Pollution" line was checked.

Water	☐ Ammonia ☐ BOD ☐ COD ☐ TSS ☐ O/G ☐ Total Coliform ☐ D.O. ☐ Metals ☐ Cyanide ☐ Other
Air:	□ NOx □ SO2 □ PM □ VOC □ Metals □ HAPs □ CO □ Other
• •	ovide general compliance assistance in accordance with the policy on the Role spector in Providing Compliance Assistance During Inspections?
□ Yes	⊠ No
• •	ovide site-specific compliance assistance in accordance with the policy on the PA Inspector in Providing Compliance Assistance During Inspections?
$\square$ Yes	⊠ No
of actions take	itional Information: EPA inspectors may wish to provide a narrative description in by the facility or assistance to help the facility come into compliance.  The system is a substitute of the system
Unannounced: EPA Inspector	stormwater MS4 sampling inspection. Various locations see inspection report. s participating: David Turin and Todd Borci.

## **Inspection Conclusion Data Sheet (ICDS)**

### FY2011

Inspector:_David Turin		
Inspection Date:Nove	mber 16, 2011	
Facility Name/Address:	North Providence, various loc	cations
Facility Manager/Title and one contacted	Address (if different from facil	ity address):Reconnaissance - no
-	Address (if different from facilit	
1. Media Type: (Check		
☐ CAA-Stationary	☐ CAA-Mobile Source	□ CAA-112r
□ CAA-NESHAP		
□ CWA-NPDES □ CWA 311	<ul><li>☐ CWA-Pretreatment POTW</li><li>☐ CWA 404</li></ul>	✓ ☐ CWA-Pretreatment IU  ☐ CWA-Stormwater
□ EPCRA 313		△ CWA-Stormwater
□ RCRA-C	□ RCRA-I	
□ SDWA-UIC	$\square$ SDWA-PWSS	
☐ TSCA-Lead Paint	□ TSCA-PCBs □ TSC	CA-Core    TSCA-AHERA
2. Did you observe defici	encies (potential violations) du	uring the inspection?
□ Yes ⊠No		
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inspection?		
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5 Did you o	• • •
5 Did you of deficiencies    Yes  If YES, che	communicated to the facility?
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5 Did you of deficiencies  \( \sum \text{Yes} \)  If YES, che action in the \( \text{Action(s) ta} \)	communicated to the facility?  ☐ No ☒ N/A only if #3 was NO.  ck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)
5 Did you of deficiencies  Section in the dection in the Comp	communicated to the facility?  □ No ☑ N/A only if #3 was NO.  ck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken
5 Did you of deficiencies  Yes  If YES, che action in the  Action(s) ta  Comp	communicated to the facility?  □ No □ N/A only if #3 was NO.  ck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report
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5 Did you of deficiencies  Yes  If YES, che action in the  Action(s) ta  Comp  Correct Imple	communicated to the facility?  No No N/A only if #3 was NO.  ck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report ct(ed) Monitoring Deficiencies ct(ed) Record Keeping Deficiencies
5 Did you of deficiencies	communicated to the facility?  No N/A only if #3 was NO.  ck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report ct(ed) Monitoring Deficiencies ct(ed) Record Keeping Deficiencies mented New or Improved Management Practices or Procedures
5 Did you of deficiencies	communicated to the facility?  No N/A only if #3 was NO.  ck only the action(s) actually observed/seen or write in a short description of the "optional" section. (Check all that apply)  ken  lete(d) a Notification or Report  ct(ed) Monitoring Deficiencies  ct(ed) Record Keeping Deficiencies  mented New or Improved Management Practices or Procedures  ved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)

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Air:	□ NOx □ SO2 □ PM □ VOC □ Metals □ HAPs □ CO □ Other
• •	ovide general compliance assistance in accordance with the policy on the Role spector in Providing Compliance Assistance During Inspections?
□ Yes	⊠ No
• •	ovide site-specific compliance assistance in accordance with the policy on the PA Inspector in Providing Compliance Assistance During Inspections?
$\square$ Yes	⊠ No
of actions take	itional Information: EPA inspectors may wish to provide a narrative description in by the facility or assistance to help the facility come into compliance.  The system is a substitute of the system
Unannounced: EPA Inspector	stormwater MS4 sampling inspection. Various locations see inspection report. s participating: David Turin and Todd Borci.

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includ	e POTW	name a	-		ed (For in mit numb		al users	discharg	ging to PO	WTC	, also						Entry Ti 8:15 AN		ate	Pe	∍rmit ∣	Effecti	ve D	ate
	s location																Exit Tim	ne/Da	te	Pe	ermit	Expira	tion	Date
		•															12:45 P	M				•		
					/Title(s)/F	Phone a	and Fax I	Number	(s)								Other F	acility	Data					
No rep	resenta	tives pr	esent o	r notifie	ed																			
Name	Addres	s of resi	nonsible	Official	/Title/Pho	ne and	I Fay Nu	ımher																
Ivaille	, Addres	3 01 163	JOHSIDIE	Official	711116/11110	nie and	ii ax ivu	ilibei.																
	Contacted																							
	Section C: Areas Evaluated During Inspection (Check only those areas evaluated)																							
	l <sub>D</sub> :				Secu	JII C.	1				Inspectio	=			se are	as eva	alualeu)		MS <sup>2</sup>	4				
	Permit Record	: ds/Repo	rts				7	_	g Program chedules	1			Pretreatm Pollution		ion			11	· MS2	4				
	Facility	/ Site Re	eview				Labora	atory				X	Storm Wa	ater										
-			ving Wa	ters					Maintenan				Combine											
<u> </u>	I Flow IV	/leasure	ment				Siuage	; mandiir	ng/Dispos	iai		Ш,	Sanitary S	sewer	vernow	,								
			Section	n D: S	Summai	ry of F	indings	s/Comn	nents (A	ttac	ch additio	nal s	sheets c	of narr	ative a	nd ch	ecklists	as n	eces	sary)				
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Unann	aunaad	otormu	votor MG	24 oom:	nling inc	naatias	. Vorio	un lana	tions o		noncotion	rono	4											
					Turin an				110112 2	ee ii	nspection	repo	и.											
	<i>(</i> )	<u> </u>	( ) (1		( )						1.	1011	/DI						<del></del>	<u> </u>				
name	(s) and S	oignatur	e(s) of Ir	ispectoi	(S)						Agency	//Uffi	ce/Phone	and F	ax inum	bers				Date				
	_																					_		
David Signat	Turin ture of M	lanagem	nent OA	Review	er							_	<b>S - SEW</b> ce/Phone						$\longrightarrow$	Date	1/22/	2011		
Signa	5 51 141	agon									, (90110)	,, 5111		U I						_ 410				ſ

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							Sed	ction A	: Nation	nal [	Data Syst	em	Coding	(i.e., F	PCS)									
Trai	nsaction	Code				N	IDPES					УУ	//mm/dd			In	spection	Туре		Inspe	ctor	Fac 1	ype	
1 <b>N</b>		2	3	RIR04	10007					Ц	11 12		11/1	1/16		17	18 <			19 <b>R</b>		20 1		]
21											Remarks								Ш		Ш			66
Inspec	ion Wo	rk Days			Facility	Self-Mo	nitoring	Evaluati	ion Rating	g			B1 <sub>.</sub>		QA					- Rese	rved -			
67	1 .	0	69				70					71			72		73	7	4 75				80	)
									Sec	ctior	n B: Faci	lity [	Data											
includ	e POTW	name a	-		ed (For in mit numb		al users	discharg	ging to PO	WTC	, also						Entry Ti 8:15 AN		ate	Pe	∍rmit ∣	Effecti	ve D	ate
	s location																Exit Tim	ne/Da	te	Pe	ermit	Expira	tion	Date
		•															12:45 P	M				•		
					/Title(s)/F	Phone a	and Fax I	Number	(s)								Other F	acility	Data					
No rep	resenta	tives pr	esent o	r notifie	ed																			
Name	Addres	s of resi	nonsible	Official	/Title/Pho	ne and	I Fay Nu	ımher																
Ivaille	, Addres	3 01 163	JOHSIDIE	Official	711116/11110	nie and	ii ax ivu	ilibei.																
	Contacted																							
	Section C: Areas Evaluated During Inspection (Check only those areas evaluated)																							
	l <sub>D</sub> :				Secu	JII C.	1				Inspectio	=			se are	as eva	alualeu)		MS <sup>2</sup>	4				
	Permit Record	: ds/Repo	rts				7	_	g Program chedules	1			Pretreatm Pollution		ion			11	· MS2	4				
	Facility	/ Site Re	eview				Labora	atory				X	Storm Wa	ater										
-			ving Wa	ters					Maintenan				Combine											
<u> </u>	I Flow IV	/leasure	ment				Siuage	; mandiir	ng/Dispos	iai		Ш,	Sanitary S	sewer	vernow	,								
			Section	n D: S	Summai	ry of F	indings	s/Comn	nents (A	ttac	ch additio	nal s	sheets c	of narr	ative a	nd ch	ecklists	as n	eces	sary)				
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					_																			
Unann	aunaad	otormu	votor MG	24 oom:	nling inc	naatias	. Vorio	un lana	tions o		noncotion	rono	. w4											
					Turin an				110112 2	ee ii	nspection	repo	nt.											
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name	(s) and S	oignatur	e(s) of Ir	ispectoi	(S)						Agency	//Uffi	ce/Phone	and F	ax inum	bers				Date				
	_																					_		
David Signat	Turin ture of M	lanagem	nent OA	Review	er							_	<b>S - SEW</b> ce/Phone						$\longrightarrow$	Date	1/22/	2011		
Signa	5 51 141	agon									, (90110)	,, 5111		U I						_ 410				ſ

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Water Compliance Inspection Report											
Section A: National Data System Coding (i.e., PCS)											
Transaction Code	NDPES	yy/r	nm/dd	Ir	nspection Type	Inspector Fac Type					
1 N 2 3 RIR040007		11 12	11/11/16	17	7 18 <	19 <b>R</b> 20 <b>1</b>					
21		Remarks				66					
Inspec ion Work Days Facility Self	-Monitoring Evaluation Rating	В	1	QA		Reserved					
67 <b>1</b> . <b>0</b> 69	70	71		72	73 74 75	80					
	Section	n B: Facility Da	ata			_					
Name and Location of Facility Inspected (For indu include POTW name and NDPES permit number)		Entry Time/Date 8:15 AM	Permit Effective Date								
Various locations						Permit Expiration Date					
North Providence, RI						Exit Time/Date Permit Expiration Date  12:45 PM					
Name(s) of On-Site Representative(s)/Title(s)/Phor	ne and Fax Number(s)				Other Facility Data	a					
No representatives present or notified											
Name, Address of responsible Official/Title/Phone	and Fax Number.										
			Contacted								
				X No							
Section	C: Areas Evaluated During	Inspection (Ch	eck only tho	se areas ev	aluated)						
Permit	Self-Monitoring Program	Pr	etreatment		X MS	64					
Records/Reports Compliance Schedules Pollution Preven ion											
			orm Water ombined Sewe	r Overflow							
Flow Measurement	Sludge Handling/Disposal	<del></del>	anitary Sewer (								
Section D: Summary of Findings/Comments (Attach additional sheets of narrative and checklists as necessary)											
Section D: Summary of	of Findings/Comments (Attac	ch additional sr	neets of narr	ative and ch	necklists as neces	ssary)					
Unannounced starmwater MS4 compling increase	tion Various locations and i	nanastian ranar									
Unannounced stormwater MS4 sampling inspec EPA Inspectors participating: David Turin and T		inspection report									
						1					
Name(s) and Signature(s) of Inspector(s)			Agency/Office/Phone and Fax Numbers			Date					
David Turin		LICEDA OFO	QEW/647.0	10 1500		11/22/2014					
David Turin Signature of Management QA Reviewer			- SEW / 617-9 e/Phone and Fa			11/22/2011 Date					
5	3 · · · · · · · · · · · · · · · · · · ·										



## EPA Region 1 Clean Water Act Inspection Data Entry Form: 3560EZ

Version 1.03

Inspector:		Erin Trainor		Date form completed:			7/31/2015			
· · · · · · · · · · · · · · · · · · ·										
Section A: Facility Information										
Inspection start date:		6/5/2014 I		Inspection start time:		09:05				
Inspection end date (if more than one day):		6/5/2014	Inspection finish time:		inish time:	14:00				
NPDES II	):	RIR040005	Federal facility?		No					
Name and	Name and Location of Facility Inspected:									
	Name:	City of Providence MS4								
	Address:	Mashpaug Pond neighborhood								
	City:	Providence	Sta	ate:	RI	ZIP:	02914			
Facility Representative #1:										
	Name:	Ed Sanchez	Tit	tle:	City of Providence Parks Department					
	Address (if off-site):	1000 Elmwood Ave.								
	City:	Providence	Sta	ate:	RI	ZIP:	02907			
	Phone #:	(401) 785-9450	Em	nail:	Enter text					
Facility Representative #2 (if necessary):										
	Name:	Enter text Title: Enter text								
	Address (if off-site):	Enter text								
	City:	Enter text	Sta	ate:	Enter text	ZIP:	Enter text			
	Phone #:	Enter text	Email: Enter text							
		Monitoring Information								
Clean Water Act Section (choose from only one of the following):										
	CWA §308[	CWA §308[A][B]: NPDES			Stormwater - MS4					
	CWA §311: Oil and Hazardous Substances		Choose an item							
CWA §404: Permits for Dredge and Fill Material			Choose an item							
Compliance Monitoring Type:			Inspection w/ Sampling							
Compliance Monitoring Reason:			Agency Priority							
If Agency Priority, then specify priority(s):										
	C	OECA - CAFO								
	C	OECA - CAFO Region Initiative Areas								
	C	DECA - CSOs w/ < 50,000 service population								
	C	OECA - CSOs w/ >= 50,000 service population								
	OECA - MS4s Phase I									
OECA - MS4s Phase II						$\boxtimes$				

OECA - SSOs ≥ 10 MGD and < 100 MGD										
Region 1 - Environmental Justice										
Region 1 - Green Economy / Green Infrastructure										
Region 1 - Industrial Laundries										
Region 1 - Lead Poisoning										
Region 1 - Municipal Infrastructure										
Region 1 - Pollution Prevention & Resource Cons	ervation									
Region 1 - Ship / Boat Yards	Region 1 - Ship / Boat Yards									
Region 1 - Wet Weather										
Compliance Monitoring Agency Type:	EPA									
Was this a Joint Compliance Monitoring Activity?	No									
If Joint, which party had the lead?	Choose an item	n or leave blank if N/A								
If State lead, what was the purpose of EPA participation?	Choose an item	n or leave blank if N/A								
Section C: ICDS Information										
Did you observe deficiencies (potential violations) during the inspection?		Choose an item								
Potential excess emission in violation of regulations:										
Potential failure to										
complete or submit a notification, report, certification, or n	nanifest:									
follow a permit condition(s):	m, massadama,									
follow a required sample monitoring procedure or laborato										
follow or develop a required management practice or proce										
identify and manage a regulated waste or pollutant in any i	nedia:									
maintain a record or failure to disclose a document:										
maintain/inspect/repair meters, sensors, and recording equi	pment:									
obtain a permit, product approval, or certification:										
report regulated events such as spills, accidents, etc.:	)	Ш								
Potential incorrect use of a material (pesticide, waste, product unapproved material:	or use of an									
Potential violation of a compliance schedule in an enforceable	order:									
If you observed deficiencies, did you communicate the deficiencies to the during the inspection?	Facility	No								
If yes, did you observe the Facility take any actions during the address the deficiencies noted?	e inspection to	No								
If yes, what actions were taken? Choose an item	1									
If the Facility reduced pollution, what pollutant was	reduced?	Enter text								
Did you provide <i>general compliance assistance</i> in accordance with the performing of the EPA inspector in providing compliance assistance during inspector.		No								
Did you provide <i>site-specific compliance assistance</i> in accordance with the role of the EPA inspector in providing compliance assistance during it		No								
Comments:										
Enter text										

## EPA Region 1 Clean Water Act Inspection Data Entry Form: 3560EZ

Version 1.03

Inspector:		Erin Trainor		Date for	m completed	::	6/19/2014		
Section A:	Facility Inf	ormation							
Inspection	start date:	6/5/2014	Inspection start time: 0			09:05	5		
Inspection (if more that	end date an one day):	6/5/2014	Inspection finish time:			14:00	)		
NPDES ID	):	RIR040005	Fed	leral facil	lity?	No			
Name and	Location of I	Facility Inspected:							
	Name:	City of Providence MS4							
	Address:	Mashpaug Pond neighborhood							
	City:	Providence		State:	RI	ZIP:	02914		
Facility Re	presentative	#1:							
	Name: Ed Sanchez			Title:	City of Pro	videnc	e Parks Department		
	Address (if off-site):	1000 Elmwood Ave.							
	City:	Providence		State:	RI	ZIP:	02907		
	Phone #:	(401) 785-9450		Email: Enter text					
Facility Re	presentative	#2 (if necessary):	•						
	Name:	Enter text		Title:	Enter text				
	Address (if off-site):	Enter text							
	City:	Enter text		State:	Enter text	ZIP:	Enter text		
	Phone #:	Enter text		Email:	Enter text				
_									
Section B:	Compliance	e Monitoring Information							
Clean Wate	er Act Sectio	n (choose from only one of the fol	llowi	ing):					
	CWA §308[	A][B]: NPDES	Sto	rmwater	- MS4				
	CWA §311:	Oil and Hazardous Substances	Cho	oose an it	tem				
	CWA §404: Material	Permits for Dredge and Fill	Cho	oose an it	tem				
Complianc	e Monitoring	Type:	Insp	pection v	v/ Sampling				
Compliance Monitoring Reason:			Age	ency Pric	ority				
If Agency Priority, then specify priority(s):									
OECA - CAFO									
OECA - CAFO Region Initiative			Areas	3					
	(	DECA - CSOs w/ < 50,000 service	e pop	ulation					
	(	DECA - CSOs w/ >= 50,000 service							
	<u> </u>	DECA - MS4s Phase I							
	(	DECA - MS4s Phase II							

	_			
		OECA - SSOs $\geq$ 10 MGD and $\leq$ 100 MGD		
		Region 1 - Environmental Justice		
		Region 1 - Green Economy / Green Infrastructure		
		Region 1 - Industrial Laundries		
		Region 1 - Lead Poisoning		
		Region 1 - Municipal Infrastructure		
		Region 1 - Pollution Prevention & Resource Conse	ervation	
		Region 1 - Ship / Boat Yards		
		Region 1 - Wet Weather		
Complianc	e Monitorin	g Agency Type:	EPA	
Was this a	Joint Compl	liance Monitoring Activity?	No	
	If Joint, wh	ich party had the lead?	Choose an item	or leave blank if N/A
		If State lead, what was the purpose of EPA participation?	Choose an item	n or leave blank if N/A
Section C:	ICDS Info	rmation		
Did you ob		encies (potential violations) during the inspection?		Choose an item
		acess emission in violation of regulations:		
	Potential fa	ilure to e or submit a notification, report, certification, or m	nanifest:	
		permit condition(s):	iaiiiicst.	П
		required sample monitoring procedure or laborator	ry procedure:	П
		or develop a required management practice or proce		П
		and manage a regulated waste or pollutant in any n		
	-	a a record or failure to disclose a document:		
	maintain	n/inspect/repair meters, sensors, and recording equi	pment:	
	obtain a	permit, product approval, or certification:		
	report re	egulated events such as spills, accidents, etc.:		
	Potential in unapproved	correct use of a material (pesticide, waste, product) I material:	or use of an	
	Potential vi	olation of a compliance schedule in an enforceable	order:	
	erved deficie inspection?	encies, did you communicate the deficiencies to the	Facility	No
		you observe the Facility take any actions during the deficiencies noted?	inspection to	No
	If	f yes, what actions were taken? Choose an item	1	
	If	f the Facility reduced pollution, what pollutant was	reduced?	Enter text
		al compliance assistance in accordance with the potential tor in providing compliance assistance during inspe		No
		pecific compliance assistance in accordance with the pector in providing compliance assistance during in		No
Comments	:			
Enter text				



## EPA Region 1 Clean Water Act Inspection Data Entry Form: 3560EZ

Version 1.03

Inspector:		Erin Trainor	Date fo	rm completed	7/28/2015		
Section A:	<b>Facility Inf</b>	ormation					
Inspection s	start date:	6/5/2014	Inspection	start time:	09:05	5	
Inspection e (if more tha		6/5/2014	Inspection finish time:			)	
NPDES ID:	:	RIR040005	Federal fac	cility?	No		
Name and I	Location of I	Facility Inspected:					
	Name:	City of Providence MS4					
	Address:	Mashpaug Pond neighborhood					
	City:	Providence	State:	RI	ZIP:	02914	
Facility Rep	presentative	#1:	•	•	II.	1	
,	Name: Ed Sanchez			City of Pro	videnc	e Parks Department	
	Address (if off-site):	1000 Elmwood Ave.	<b>.</b>	1			
	City:	Providence	State:	RI	ZIP:	02907	
	Phone #: (401) 785-9450			Enter text		1	
Facility Rep	presentative	#2 (if necessary):					
,	Name: Enter text			Enter text			
	Address (if off-site):	Enter text	•	•			
[	City:	Enter text	State:	Enter text	ZIP:	Enter text	
	Phone #:	Enter text	Email:	Enter text			
Section B:	Compliance	e Monitoring Information					
Clean Wate	r Act Sectio	n (choose from only one of the fol	lowing):				
	CWA §308[	A][B]: NPDES	Stormwate	r - MS4			
[	CWA §311:	Oil and Hazardous Substances	Choose an	item			
	CWA §404: Material	Permits for Dredge and Fill	Choose an	item			
Compliance	Monitoring	g Type:	Inspection	w/ Sampling			
Compliance Monitoring Reason:			Agency Pr	iority			
If Agency Priority, then specify priority(s):							
OECA - CAFO							
OECA - CAFO Region Initiative			reas				
	(	DECA - CSOs w/ < 50,000 service	population				
	(	DECA - CSOs w/ >= 50,000 service	e populatio	n			
	(	OECA - MS4s Phase I					
	(						

OECA - SSOs ≥ 10 MGD and < 100 MGD										
Region 1 - Environmental Justice										
Region 1 - Green Economy / Green Infrastructure										
Region 1 - Industrial Laundries										
Region 1 - Lead Poisoning										
Region 1 - Municipal Infrastructure										
Region 1 - Pollution Prevention & Resource Cons	ervation									
Region 1 - Ship / Boat Yards	Region 1 - Ship / Boat Yards									
Region 1 - Wet Weather										
Compliance Monitoring Agency Type:	EPA									
Was this a Joint Compliance Monitoring Activity?	No									
If Joint, which party had the lead?	Choose an item	n or leave blank if N/A								
If State lead, what was the purpose of EPA participation?	Choose an item	n or leave blank if N/A								
Section C: ICDS Information										
Did you observe deficiencies (potential violations) during the inspection?		Choose an item								
Potential excess emission in violation of regulations:										
Potential failure to										
complete or submit a notification, report, certification, or n	nanifest:									
follow a permit condition(s):	m, massadama,									
follow a required sample monitoring procedure or laborato										
follow or develop a required management practice or proce										
identify and manage a regulated waste or pollutant in any i	nedia:									
maintain a record or failure to disclose a document:										
maintain/inspect/repair meters, sensors, and recording equi	pment:									
obtain a permit, product approval, or certification:										
report regulated events such as spills, accidents, etc.:	)	Ш								
Potential incorrect use of a material (pesticide, waste, product unapproved material:	or use of an									
Potential violation of a compliance schedule in an enforceable	order:									
If you observed deficiencies, did you communicate the deficiencies to the during the inspection?	Facility	No								
If yes, did you observe the Facility take any actions during the address the deficiencies noted?	e inspection to	No								
If yes, what actions were taken? Choose an item	1									
If the Facility reduced pollution, what pollutant was	reduced?	Enter text								
Did you provide <i>general compliance assistance</i> in accordance with the performing of the EPA inspector in providing compliance assistance during inspector.		No								
Did you provide <i>site-specific compliance assistance</i> in accordance with the role of the EPA inspector in providing compliance assistance during it		No								
Comments:										
Enter text										

EPA New England Stormwater Outfall Inspection & Sampling Summary - Chelsea, MA 7/6/11

	Loca	tion														Coord	dinates		YSI M	eter	Weather
				Fecal		Surfactants	Chlorine	NH3 (mg/l)				PPCP ng/L						Salinity	Temp	Conductivity	
				coliform (MPN/100						Acetamin		1,7-		Cultamat	Carbama						
Date	Town	Site Name	Time	(IMPN/100 ml)	(MPN/1			Test St.	Atenolol			Dimethyl xanthine		Sulfamet hazine			GPS West (-)	ppt	С	uS	
8/16/11	N. Providence	010	8:15	2,400	250				ND	2.7	11	16	33	ND	ND	,	-71 2202638		15.8	859	Dry
8/16/11	N. Providence	015	9:40						ND	ND	3.6	7	83	ND	0 68						
8/16/11	N. Providence	014	10:05						ND	2.4	4.1	3.7	28	ND	1.6						
8/16/11	N. Providence	005A	11:20	4,300	2,419				ND	7	2.1	22	12	ND	0 84						
8/16/11	N. Providence	005B	11:15	2,400	411				ND	ND	0.74	ND	36	ND	ND						
8/16/11	N. Providence	005C	11:10	4 600 000	2 419				820	16000	150	4400	8500	ND	ND						
8/16/11	N. Providence	001	12:15	930	326				ND	ND	3	4	11	ND	0.78						

E. coli - color key: Red ≥ 10,000 col/100ml, Orange ≥ 1260 col/100ml, Yellow ≥ 235 col/100ml, Black < 235 col/100ml

Entero - color key: Red ≥ 1000 col/100ml, Orange ≥ 350 Yellow ≥ 61 col/100ml, Black < 61 col/100ml

NH3 - color key: Red  $\geq$  6 mg/L, Orange  $\geq$  0.5 mg/L, Yellow  $\geq$  0 0 mg/L Surfactants - color key: Red  $\geq$  1.0 mg/L, Orange  $\geq$  0.5 mg/L, Yellow  $\geq$  0 25 mg/L, Black < 0.25 mg/L \*\*\* may give false positive at salinity greater than 1 ppt

PPCP color key: Pink = Concentrations greater than background

Cl2 - color key: Red ≥ 1.0 mg/L, Orange ≥ 0.3 mg/L, Yellow ≥ 0.02 mg/L, Black < 0.02 mg/L

#### REPORTING LIMITS

E. coli = 4 MPN/100mL Enterococcus = 10 MPN/100mL Surfactants Field = 0.1 mg/L Ammonia Field = 0.1 mg/L

ND - not detected above the associated detection limit

NA - not applicable (analyte not tested for at that site at this time)

(~) - data reported as estimate

EPA New England Stormwater Outfall Inspection & Sampling Summary - Chelsea, MA 7/6/11

	Loca	tion														Coord	dinates		YSI M	eter	Weather
				Fecal		Surfactants	Chlorine	NH3 (mg/l)				PPCP ng/L						Salinity	Temp	Conductivity	
				coliform (MPN/100						Acetamin		1,7-		Cultamat	Carbama						
Date	Town	Site Name	Time	(IMPN/100 ml)	(MPN/1			Test St.	Atenolol			Dimethyl xanthine		Sulfamet hazine			GPS West (-)	ppt	С	uS	
8/16/11	N. Providence	010	8:15	2,400	250				ND	2.7	11	16	33	ND	ND	,	-71 2202638		15.8	859	Dry
8/16/11	N. Providence	015	9:40						ND	ND	3.6	7	83	ND	0 68						
8/16/11	N. Providence	014	10:05						ND	2.4	4.1	3.7	28	ND	1.6						
8/16/11	N. Providence	005A	11:20	4,300	2,419				ND	7	2.1	22	12	ND	0 84						
8/16/11	N. Providence	005B	11:15	2,400	411				ND	ND	0.74	ND	36	ND	ND						
8/16/11	N. Providence	005C	11:10	4 600 000	2 419				820	16000	150	4400	8500	ND	ND						
8/16/11	N. Providence	001	12:15	930	326				ND	ND	3	4	11	ND	0.78						

E. coli - color key: Red ≥ 10,000 col/100ml, Orange ≥ 1260 col/100ml, Yellow ≥ 235 col/100ml, Black < 235 col/100ml

Entero - color key: Red ≥ 1000 col/100ml, Orange ≥ 350 Yellow ≥ 61 col/100ml, Black < 61 col/100ml

NH3 - color key: Red  $\geq$  6 mg/L, Orange  $\geq$  0.5 mg/L, Yellow  $\geq$  0 0 mg/L Surfactants - color key: Red  $\geq$  1.0 mg/L, Orange  $\geq$  0.5 mg/L, Yellow  $\geq$  0 25 mg/L, Black < 0.25 mg/L \*\*\* may give false positive at salinity greater than 1 ppt

PPCP color key: Pink = Concentrations greater than background

Cl2 - color key: Red ≥ 1.0 mg/L, Orange ≥ 0.3 mg/L, Yellow ≥ 0.02 mg/L, Black < 0.02 mg/L

#### REPORTING LIMITS

E. coli = 4 MPN/100mL Enterococcus = 10 MPN/100mL Surfactants Field = 0.1 mg/L Ammonia Field = 0.1 mg/L

ND - not detected above the associated detection limit

NA - not applicable (analyte not tested for at that site at this time)

(~) - data reported as estimate

### June 8, 2011 - EPA water quality field testing results

#### 239 Putnam Pike, Smithfield/Johnston line, RI

	Time	Ammonia	Surfactants	Chlorine	Temperature	Conductivity	Salinity
6" deep (after 30sec-CL)	11:35am	0	0.125	0			
6" deep (after several min-CL) Deep				0.08			
(after 3 min-CL)	11:55am		0.25	0.05			
Deep (insitu w/probe)	12:30pm				22.3	199	0.1

Evergreen Park	way, North F	Providence,	RI				
	Time	Ammonia	Surfactants	Chlorine	Temperature	Conductivity	Salinity
In stream							
(after 3 min-CL)	1:30pm	0	<0.25	0.06	26	351.9	0.2

#### Comments

shallow sample

#### Comments

small (6") fish present; 1/2 way under road, there's a little (1' high) dam

#### North Providence – Follow-up PPCP Sampling Tentatively scheduled for Nov 9, 2011

#### Potential sampling stations:

- 1. Pearl Av (010)
- 2. Stream btw David and Spicer Sts (access from David St, behind bar and grill on Mineral Sp)
- 3. Stream btw Milton and Rosedale Sts, at Fruit Hill Av, op. RI College
- 4. Outfall nr end of driveway on Woonasquatucket Av, to left and opp. Metcalf Av, if found
- 5. Culverts behind Peter Blackburne, Inc, nr Falco St (014 A),
- 6. And Falco St (014 B), if both pipes flowing
- 7. Behind Cumberland Farms @ Smith St and Rt 104, if flowing
- 8. Mill St, behind post office or between P.O. and Steere Av, if found
- 9. Brook Farm Rd (019), nr Douglas Av (Rt 7)
- 10. Obed St (003), off Charles St, if flowing
- 11. Culverts under Mineral Spring Av, if accessible
- 12. Gillen Av (005 C)
- 13. Gillen Ave (005 A, if flowing)

#### North Providence – Follow-up PPCP Sampling Tentatively scheduled for Nov 9, 2011

#### Potential sampling stations:

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- 6. And Falco St (014 B), if both pipes flowing
- 7. Behind Cumberland Farms @ Smith St and Rt 104, if flowing
- 8. Mill St, behind post office or between P.O. and Steere Av, if found
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- 10. Obed St (003), off Charles St, if flowing
- 11. Culverts under Mineral Spring Av, if accessible
- 12. Gillen Av (005 C)
- 13. Gillen Ave (005 A, if flowing)



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION I

DATE: October 18, 2013

SUBJ: MS4 Reconnaissance Inspection

Town of North Providence, Rhode Island

FROM: Erin Trainor, Inspector

TO: File

REQUESTED BY: Dave Turin (OES)

I. <u>Background Information</u>

A. Date, Time of inspection: Tuesday, September 17, 2013, 12:00 PM

B. Weather Conditions: Sunny, approximately 60 degrees F

C. USEPA Representatives: Erin Trainor

David Turin Denny Dart

D. Site Representative(s): Glenn J. Corrente

Department of Public Works

2 Mafalda Street

North Providence, RI 02904 Telephone: (401) 233-1440

Fax: (401) 233-1442

Note: The Site Representative was not contacted.

E. Address: Various locations associated with the outfall located at 457

Woonasquatucket Avenue as well as areas along Kristen Drive and Gillen Avenue within the Town of North Providence, Rhode Island municipal separate storm sewer

system (MS4).

#### II. Purpose of Inspection

The purpose of the inspection was to locate potential sample areas which were identified by the Municipal Mapping Assistance Program as areas with possible illicit connections or illegal discharges that may adversely impact the water quality in the Woonasquatucket River.

#### III. <u>Inspection Observations and Findings</u>

On Tuesday, September 17, 2013, EPA inspectors David Turin, Denny Dart, and Erin Trainor met with Jennifer Stout and Eric Beck of Rhode Island Department of Environmental Management (RIDEM). Inspectors reviewed areas assessed by the Municipal Mapping Assistance Program which were recommend to EPA as potential areas to sample within the Town of North Providence based on observations collected over the course of summer 2013. Inspectors then conducted a reconnaissance inspection within the Town of North Providence at locations associated with the outfall identified as "priority outfall" located at 457 Woonasquatucket Avenue, as well as areas along Kristen Drive and Gillen Avenue.

The inspectors met with RIDEM personnel at 08:40, and the inspection started in North Providence at 12:00 PM. At the time of the inspection the weather was sunny and approximately 60 degrees Fahrenheit. According to weather underground, a rain event rain event of 0.08 inches was reported on September 16, 2013 in Providence, Rhode Island. Photographs are included at the end of this report.

End of Report

Attachments: Photographs



"Priority outfall" located at 457 Woonasquatucket Avenue. The outfall depicted on the left measures approximately 36 inches in diameter, the outfall depicted in the middle measures approximately 8 inches in diameter, and the outfall depicted on the right measures approximately 48 inches in diameter.



Paper observed downstream of the "priority outfall".



Catch basin along Woonasquatucket Avenue which leads to the 48 inch outfall at the "priority outfall". Running water was heard at catch basin.



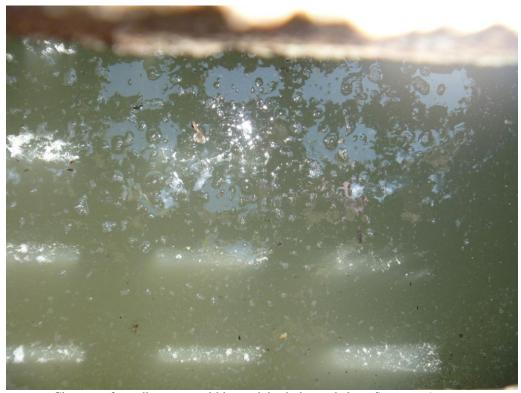
Access manhole that leads to 36 inch outfall at the "priority outfall".



Catch basin and access manhole located at 25 Whipple Road, upstream of the "priority outfall". A trickle was heard upstream.



Catch basin located along Sampson Avenue, upstream of the "priority outfall".



Close up of standing water within catch basin located along Sampson Avenue.



View of standing water located within catch basin in front of 11 Kristen Drive.



Three outfalls located along Gillen Avenue. Note: the outfall depicted on the right has had historical contamination documented by EPA in 2011, identified as "005C".



Paper observed downstream of outfall "005C".

# MUNICIPAL STORMWATER SEWER SYSTEM NORTH PROVIDENCE, RHODE ISLAND

Sampling of Stormwater Outfalls for Bacteria and Pharmaceuticals and Personal Care Products

> Sampling & Analysis Plan (SAP) August 2011

U.S. Environmental Protection Agency
EPA New England
Office of Environmental Measurement & Evaluation
Environmental Investigations & Analysis Unit

Project Manager: Dave Turin	
Signature:	Date:
EIA Field Sampling Leader: Erin Trainor	
Signature: C. P. P.	Date: 8/12/2011
EIA Field Team Leader: Jerry Keefe	
Signature:	Date: 8/18/11
Laboratory Acceptance: Dan Boudreau	
Signature: Wat Belie	Date: 8/21/11

- Project Name: Sampling of Stormwater Outfalls for Bacteria and Pharmaceuticals and Personal Care Products at
- 2. Project Requested By: EPA's Office of Environmental Stewardship (OES)
- 3. Date of Request: June 7, 2011
- 4. Date of Project Initiation: August 2011
- 5. Project Manager: Dave Turin
- 6. Quality Assurance Officer: TBD
- 7. Project Description

#### A. Objective and Scope Statement:

The Office of Environmental Measurement & Evaluation (OEME) environmental investigations and analysis team (EIA) was requested to assist with water sampling within North Providence, Rhode Island. Utilizing the stormwater outfall sampling protocol developed by the Office of Environmental Stewardship (OES), samples will be collected from stormwater outfalls for the purpose of identifying illicit connections to stormwater system outfalls. EIA staff will sample eight outfalls located in the Town of North Providence. The outfalls will be screened in the field using test kits for ammonia, chlorine, and surfactants, and analyzed at the EPA New England Regional Laboratory (NERL) for E.Coli, Enteracoccus, and Pharmaceuticals and Personal Care Products (PPCP). Additional sampling and analysis may be performed at the discretion of EIA field staff and recorded in the site field logbook.

#### B. Data Usage:

Data will be used to assess levels of contamination, and to confirm the presence (or absence) of contaminants at a stormwater discharge point. Site observations, documentation, and results of sampling during these inspections will be forwarded to the OES enforcement staff for enforcement actions and information requests.

#### C. Sampling Event Design:

EIA will conduct the stormwater monitoring on August 16, 2011. Stormwater samples will be collected under guidance of EPA's Ambient Water Sampling Standard Operating Procedure (SOP) (ECASOP-Water1). Samples will be collected as grab samples. Stormwater samples will be field screened for ammonia under guidance of EPA's SOP for Measuring Ammonia using Ammonia 0-6.0mg/L (Nitrogen) Hach® 0-6.0mg/L Test Kit (EIASOP-Test Strip1), for chlorine under guidance of EPA's SOP for Measuring Pocket Colorimeter Analysis System Low Range (0.0-2.00 mg/L) - Free and Total Chlorine High Range (0.0-4.5 mg/L) - Total Chlorine (ECASOP-ChlorineSOP1), and for surfactants under guidance of EPA's SOP for Measuring Detergents using Detergents CHEMets 0-3 ppm Test Kit (ECASOP-DetergentsSOP1). Sample sites will be located using GPS, with an accuracy goal of  $\pm 1$  meter and Position Dilution of Precision (PDOP) less than 6. Less accurate GPS reading or coordinates from maps will be

accepted when site or other conditions do not allow ± 1 meter accuracy. EIA staff will conduct in-situ monitoring for temperature, conductivity, and dissolved oxygen (DO) using a YSI model 6 sonde under guidance of the OEME EMT SOP for YSI Model 6-Series Sondes and Data Logger SOP (ECASOP-YSISondes10) and/or another approved in situ monitor.

Field QC samples will consist of the following:

Calibration:

EPA will calibrate its sondes according to the EPA sonde calibration SOP.

Field duplicate:

One duplicate sample will be collected per sampling event or

approximately for every ten samples.

Trip Blank:

OEME Chemist will run appropriate QA samples for PPCP's. One blank

sample will be collected for approximately every ten bacteria samples. Reported data that is less than 5 times the trip (field) blank concentration

will be flagged.

QC Criteria:

Data not meeting this criteria will be reviewed by the Project Manager.

Data that does not meet laboratory QA/QC criteria will be flagged by the

laboratory.

D. Monitoring Parameters and Frequency of Collection:

Parameter	Number of Samples	Sample Matrix	Lab SOP (LIMS code)	Sample Container	<u>Sample</u> <u>Preservation</u>	Holding Time
Fecal Coliform	8 + 1 field dup.	Water	ECASOP-TC/EC Colilert2	120 mL sterile	Ice to 6°C	8 hours
Enterococcus	8+1 field dup.	Water	ECASOP-Enterolert1	120 mL sterile	Ice to 6°C	6 hours
PPCP	8	Water	EIASOP-LCMS- STAO	1 L glass amber	Ice to 4°C (acidified in lab)	7 days to extraction 40 days after extraction

#### 8. Schedule of Tasks and Products:

Date	Activity
June 2011	Request OEME field and lab support
August 2011	Sample Collection
August 2011	Sample analyses at NERL
September 2011	Deliver analytical results to Project Manager

#### 9. Project Organization and Responsibility:

The following is a list of key project personnel and their responsibilities:

Responsibility Contact
Project Officer Dave Turin

Sampling Leader/Inspector Erin Trainor (EIA)
Sampling QC/Inspector Erin Trainor (EIA)
Chemistry Lead Dan Boudreau (EIA)

Laboratory Analyses EPA NE Lab chemistry staff

Data Evaluation/Lab QC
Performance Audits/QC
Dan Boudreau (EIA)
None requested at this time

#### 11. Data Quality Objectives:

Accuracy and Precision values are for method internal QA/QC. The values are to be considered as goals because some specific compounds are known outside these goals.

Parameter	Sample Matrix	Reporting Limits	Accuracy 1 (%)	Precision <sup>2</sup> (%)
E.Coli	Water	4 col/100mL	ECASOP- TotalColiformMF2	± 100 col/100mL or 30% RPD
Enterococcus	Water	1 col/100mL	TBD	± 100 col/100mL or 30% RPD
Caffeine	Water	5.0 ng/L	TBD	< 50% RPD
1,7-DMX	Water	2.5 ng/L	TBD	< 50% RPD
Acetaminophen	Water	2.5 ng/L	TBD	< 50% RPD
Carbamazepine	Water	0.5 ng/L	TBD	< 50% RPD
Primidone	Water	5.0 ng/L	TBD	< 50% RPD
Atenolol	Water	2.5 ng/L	TBD	< 50% RPD
Cotinine	Water	0.5 ng/L	TBD	< 50% RPD
Urobilin	Water	5.0 ng/L	TBD	< 50% RPD
Azithromycin	Water	1.6 ng/L	TBD	< 50% RPD

#### Footnotes:

- 1. Accuracy is based on a lab matrix spike (MS) recovery.
- 2. Precision is based on a lab duplicate, matrix spike duplicate (MSD), and/or laboratory fortified blanks (LFB).

#### 12. Data Representativeness/Comparability:

Samples must be representative of the stormwater discharges. The analytical data will be compared to Water Quality Criteria/Guideline to assess compliance. 90% of the data must be valid. If data are incomplete, the Project Manager and EIA Team Leader will determine if additional sampling is needed.

#### 13. Sampling Procedures

Samples will be collected according to the OEME EMT SOP for Ambient Water Sampling (ECASOP-Water1). Samples will be collected as grab samples. On the occasion that field personnel determine that any of the procedures described in this SAP or SOPs are inappropriate, inadequate or impractical and that another procedure must be used to obtain a sediment or water sample, the procedure will be documented in the field log book with a description of the circumstances requiring its use.

#### 14. Sample Custody Procedures:

Samples collected will be handled in accordance with the OEME SOP for Evidence and Sample Management (OEMESOP-EVIDENCEMANAGEMENT3). Each sample will be given a unique identification number which corresponds with the assigned monitoring well number. Samples will be handled by EIA chemistry staff according to the SOP for Sample Login, Tracking, and

Sample Disposition (EIASOP-ADMLOG15.SOP).

#### 16. Documentation and Data Reduction, and Reporting:

All information will be recorded in the samplers log books, or on field data sheets, in addition to completion of all chain of custody forms, labels, etc. Any photographs taken will be documented in the field log book and included in the inspection report. Analytical data will be tabulated by the laboratory and reported to the Project Manager in accordance to NERL procedures and the NERL QAPP. EIA field reporting will be in accordance with EIA's report SOP [EIASOP\_Report Prep\_Review\_Distribution]

#### 17. Data Validation:

Data will be reviewed by routine laboratory procedures as specified in the NERL QAPP - 3/31/2010, Section 11 Data Reduction, Reporting, and Internal Verification. Data will be validated against the criteria presented in sections 7D, 11, and 12 of this SAP. Any limitations on the use of data will be documented and explained. Field data will be compiled and reviewed by the Sampling Leader and any corrective actions or issues that are needed will be brought to the EIA Team Leader.

#### 18. Performance and Systems Audits:

May be performed by the QA Office as requested by the Project Manager.

#### 19. Corrective Action:

Any corrective action will be determined by the Sampling Leader and documented in the field logbook as necessary and discussed with the Project Manager and EIA team leader.

20. Inspection and Analytical Reports will be sent to: Dave Turin, OES - Water Technical Unit

2			

### **Inspection Conclusion Data Sheet (ICDS)**

#### FY2011

Inspector:_David Turin			
Inspection Date:Ma	arch 23, 2011		
Facility Name/Address:	:North Providence, various	us locations	
one contacted	and Address (if different from	•	
Facility Contact/Title a	nd Address (if different from f	•	
1. Media Type: (Chec			
☐ CAA-Stationary☐ CAA-NESHAP	☐ CAA-Mobile Source	□ CAA-112	r
☐ CWA-NPDES	☐ CWA-Pretreatment P	OTW 🗆 CWA-Pre	treatment IU
□ CWA 311	□ CWA 404	: CWA-Stor	mwater
□ EPCRA 313			
□ RCRA-C □ SDWA-UIC	□ RCRA-I □ SDWA-PWSS		
	□ TSCA-PCBs	☐ TSCA-Core ☐ T	SCA-AHERA
2. Did you observe de	ficiencies (potential violation	s) during the inspe	ction?
: Yes □ No			
3. If you observed def	ïciencies, did you communica	ate them to the faci	lity during the inspection
□ Yes : No			
4. Deficiencies observ	ed?		
Potential violation of a c	compliance schedule in an enforceable or	der.	
Potential failure to main	tain a record or failure to disclose a docu	ment.	
Potential failure to main	tain, inspect or repair equipment includir	ng meters, sensors, and reco	ording equipment.

Potential failure	to complete or submit a notification, report, certification, or manifest.
Potential failure	to obtain a permit, product approval, or certification.
Potential failure	to follow a required sampling or monitoring procedure or laboratory procedure.
Potential failure	to follow or develop a required management practice or procedure.
_X_ Potential failure	e to identify and manage a regulated waste or pollutant in any media.
Potential failure	to report regulated events such as spills, accidents, etc.
Potential incorre	ect use of a material (e.g., pesticide, waste, product, etc.) or use of improper or unapproved material.
Potential failure	to follow a permit condition(s).
deficiencies com	eve or see the facility take any actions during the inspection to address the municated to the facility?
$\square$ Yes $\square$	No : N/A only if #3 was NO.
,	only the action(s) actually observed/seen or write in a short description of the ional" section. (Check all that apply)
Action(s) taken	
Complete(d	) a Notification or Report
Correct(ed)	Monitoring Deficiencies
Correct(ed)	Record Keeping Deficiencies
Implemente	ed New or Improved Management Practices or Procedures
Improved P	follutant Identification (e.g., Labeling, Manifesting, Storage, etc.)
Reduced Po	ollution (e.g., Use Reduction, Industrial Process Change, Emissions or Discharge Change, etc.)
Request(ed)	a Permit Application or Applied for a Permit
Verified Co	empliance with Previously Issued Enforcement Action - Part or All Conditions
The following co Pollution" line w	mmon air or water pollutant(s) <b>should only be checked</b> if the "Reduced as checked.
Water: 9	Ammonia 9BOD 9COD 9TSS 9O/G 9Total Coliform 9D.O.
Ģ	9 Metals 9 Cyanide 9 Other
	ONOX 9SO2 9PM 9VOC 9Metals 9HAPs 9CO Other

6. Did you provide general compliance assistance in accordance with the policy on the Role of the EPA Inspector in Providing Compliance Assistance During Inspections?					
$\square$ Yes	: No				
	7. Did you provide site-specific compliance assistance in accordance with the policy on the Role of the EPA Inspector in Providing Compliance Assistance During Inspections?				
$\square$ Yes	: No				
of actions taken by	<b>al Information:</b> EPA inspectors may wish to provide a narrative description the facility or assistance to help the facility come into compliance. used in national or regional reports to provide examples of EPA inspection				
pipes are being eval	d reconnaissance of stormwater discharge locations. Flowing stormwater uated for potential future compliance sampling. Inspectors participating: Alex Rosenberg, EPA; Alex Pinto, RI DEM.				

## **Inspection Conclusion Data Sheet (ICDS)**

#### FY2011

Inspector:_David Turin				
Inspection Date:June 2	23, 2011			
Facility Name/Address:	North Providence, va	rious loca	ations	
Facility Manager/Title and one contacted	Address (if different fro	om facility	y address): _	Reconnaissance - no
Facility Contact/Title and A	Address (if different from	•		
1. Media Type: (Check				
☐ CAA-Stationary	☐ CAA-Mobile Sour	rce	□ CAA-11	2r
□ CAA-NESHAP				
□ CWA-NPDES	☐ CWA-Pretreatmen			
□ CWA 311			: CWA-Sto	ormwater
□ EPCRA 313 □ RCRA-C	□ EPCRA N313 □ RCRA-I			
	□ SDWA-PWSS			
☐ TSCA-Lead Paint			A-Core	TSCA-AHERA
2. Did you observe defici	encies (potential violat	ions) dur	ing the insp	ection?
: Yes □ No				
3. If you observed deficie	encies, did you commu	nicate the	em to the fac	cility during the
inspection?				
□ Yes : No				

4. De	efficiencies observed?
F	Potential violation of a compliance schedule in an enforceable order.
I	Potential failure to maintain a record or failure to disclose a document.
I	Potential failure to maintain, inspect or repair equipment including meters, sensors, and recording equipment.
I	Potential failure to complete or submit a notification, report, certification, or manifest.
F	Potential failure to obtain a permit, product approval, or certification.
F	Potential failure to follow a required sampling or monitoring procedure or laboratory procedure.
I	Potential failure to follow or develop a required management practice or procedure.
_X	Potential failure to identify and manage a regulated waste or pollutant in any media.
F	Potential failure to report regulated events such as spills, accidents, etc.
F	Potential incorrect use of a material (e.g., pesticide, waste, product, etc.) or use of improper or unapproved material.
F	Potential failure to follow a permit condition(s).
5 Dic	d you observe or see the facility take any actions during the inspection to address the tencies communicated to the facility?
5 Did defici	·
5 Did defici If action	Yes No : N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)
5 Did defici	Yes No : N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken
5 Did defici	Yes No No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  **Material**  **Complete(d) a Notification or Report*
5 Did defici	Hencies communicated to the facility?  Yes No No N/A only if #3 was No.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  M(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies
5 Did defici	Yes No No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  **Material**  **Complete(d) a Notification or Report*
5 Dic defici	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies
5 Dic defici	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures
5 Did defici	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures  Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)

The following common air or water pollutant(s) **should only be checked** if the "Reduced Pollution" line was checked.

Water:	9 Ammonia 9BOD 9COD 9TSS 9O/G 9Total Coliform 9D.O.				
	9 Metals 9 Cyanide 9 Other				
Air: 9NOx 9SO2 9PM 9VOC 9Metals 9HAPs 9CO 9Other					
	ovide general compliance assistance in accordance with the policy on the Role spector in Providing Compliance Assistance During Inspections?				
□ Yes	: No				
	ovide site-specific compliance assistance in accordance with the policy on the PA Inspector in Providing Compliance Assistance During Inspections?				
□ Yes	: No				
of actions taken	itional Information: EPA inspectors may wish to provide a narrative description in by the facility or assistance to help the facility come into compliance.  In y be used in national or regional reports to provide examples of EPA inspection				
pipes are being participating: I Sites evaluated	unced reconnaissance of stormwater discharge locations. Flowing stormwater gevaluated for potential future compliance sampling inspections. Inspectors David Turin, EPA; Erin Trainer, EPA.  : Gillen St. and Randall St; Stop and Shop parking lot (Mineral Spring Ave); Pearl St; Hopkins Manor, 610 Smithfield St; Governor Notte Park.				

## **Inspection Conclusion Data Sheet (ICDS)**

### FY2011

Inspector:_David Turin			
Inspection Date:Augu	st 15, 2011		
Facility Name/Address:	North Providence, various	locations	
Facility Manager/Title and one contacted	l Address (if different from fac	cility address):Reconnaissanc	e - no
Facility Contact/Title and	Address (if different from fact	ility address):	
1. Media Type: (Check	one)		
☐ CAA-Stationary	☐ CAA-Mobile Source	□ CAA-112r	
□ CAA-NESHAP			
☐ CWA-NPDES		$\Gamma W  \Box \ CWA$ -Pretreatment IU	
□ CWA 311		: CWA-Stormwater	
□ EPCRA 313			
□ RCRA-C □ SDWA-UIC	□ RCRA-I □ SDWA-PWSS		
		ΓSCA-Core □ TSCA-AHERA	
2. Did you observe defic	iencies (potential violations)	during the inspection?	
□ Yes : No			
3. If you observed defici	encies, did you communicate	e them to the facility during the	
inspection?			
□ Yes □ No			

Po	tential violation of a compliance schedule in an enforceable order.
Po	tential failure to maintain a record or failure to disclose a document.
Po	tential failure to maintain, inspect or repair equipment including meters, sensors, and recording equipment.
Po	tential failure to complete or submit a notification, report, certification, or manifest.
Pot	ential failure to obtain a permit, product approval, or certification.
Po	tential failure to follow a required sampling or monitoring procedure or laboratory procedure.
Po	tential failure to follow or develop a required management practice or procedure.
Pot	ential failure to identify and manage a regulated waste or pollutant in any media.
Po	tential failure to report regulated events such as spills, accidents, etc.
Po	tential incorrect use of a material (e.g., pesticide, waste, product, etc.) or use of improper or unapproved material.
Po	tential failure to follow a permit condition(s).
If Y	Yes $\square$ No : N/A only if #3 was NO.  ES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)
	(s) taken
	(s) taken Complete(d) a Notification or Report
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures  Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures  Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)  Reduced Pollution (e.g., Use Reduction, Industrial Process Change, Emissions or Discharge Change, etc.)
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures  Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)  Reduced Pollution (e.g., Use Reduction, Industrial Process Change, Emissions or Discharge Change, etc.)  Request(ed) a Permit Application or Applied for a Permit
	(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures  Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)  Reduced Pollution (e.g., Use Reduction, Industrial Process Change, Emissions or Discharge Change, etc.)

The following common air or water pollutant(s) **should only be checked** if the "Reduced Pollution" line was checked.

onia 9BOD 9COD 9TSS 9O/G 9Total Coliform 9D.O.				
9Cyanide 9 Other				
Air: 9NOx 9SO2 9PM 9VOC 9Metals 9HAPs 9CO 9Other				
eral compliance assistance in accordance with the policy on the Role Providing Compliance Assistance During Inspections?				
o .				
specific compliance assistance in accordance with the policy on the or in Providing Compliance Assistance During Inspections?				
0				
ormation: EPA inspectors may wish to provide a narrative description cility or assistance to help the facility come into compliance. In national or regional reports to provide examples of EPA inspection ance of stormwater discharge locations. Flowing stormwater pipes are tial future compliance sampling inspections. EPA Inspectors and Erin Trainer. Sites evaluated: Stop and Shop parking lot alturno St; Gillen St; Jane St; Aldritch St; Woonasquatucket Ave @ nasquatucket Ave and Falco St. Heavy rain throughout day; moderate mall of the assessed discharge pipes. Follow-up meeting with Peter s helping us coordinate bacteria sample analysis by RI DOH of samples lie.				

## **Inspection Conclusion Data Sheet (ICDS)**

#### FY2011

Inspector:_David Turin		
Inspection Date:Augu	st 15, 2011	-
Facility Name/Address:	North Providence, various loc	ations
Facility Manager/Title and one contacted	Address (if different from facilit	y address):Reconnaissance - no
Facility Contact/Title and	Address (if different from facility	address):
1. Media Type: (Check	one)	
□ CAA-Stationary	☐ CAA-Mobile Source	□ CAA-112r
□ CAA-NESHAP		
□ CWA-NPDES		
□ CWA 311 □ EPCRA 313	□ CWA 404 □ EPCRA N313	: CWA-Stormwater
□ RCRA-C	□ RCRA-I	
	□ SDWA-PWSS	
	□ TSCA-PCBs □ TSC	A-Core   TSCA-AHERA
2. Did you observe defici	encies (potential violations) du	ring the inspection?
: Yes □No		
3. If you observed deficient	encies, did you communicate th	em to the facility during the
inspection?		
□ Yes : No		

4. De	efficiencies observed?
]	Potential violation of a compliance schedule in an enforceable order.
1	Potential failure to maintain a record or failure to disclose a document.
1	Potential failure to maintain, inspect or repair equipment including meters, sensors, and recording equipment.
l	Potential failure to complete or submit a notification, report, certification, or manifest.
_X_I	Potential failure to obtain a permit, product approval, or certification.
1	Potential failure to follow a required sampling or monitoring procedure or laboratory procedure.
1	Potential failure to follow or develop a required management practice or procedure.
_X_I	Potential failure to identify and manage a regulated waste or pollutant in any media.
]	Potential failure to report regulated events such as spills, accidents, etc.
]	Potential incorrect use of a material (e.g., pesticide, waste, product, etc.) or use of improper or unapproved material.
1	Potential failure to follow a permit condition(s).
5 Die	d you observe or see the facility take any actions during the inspection to address the fencies communicated to the facility?
5 <b>Die</b> defici	iencies communicated to the facility?  Yes
5 Die defici	iencies communicated to the facility?  ☐ Yes ☐ No : N/A only if #3 was NO.
5 Die defici If action	iencies communicated to the facility?  Yes
5 Die defici If action	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)
5 Die defici If action	Yes No NA only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken
5 Die defici If action	Yes No NA only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report
5 Die defici If action	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies
5 Die defici If action	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies
5 Die defici If action	Hencies communicated to the facility?  Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report  Correct(ed) Monitoring Deficiencies  Correct(ed) Record Keeping Deficiencies  Implemented New or Improved Management Practices or Procedures
5 Die defici If action	Yes No N/A only if #3 was NO.  YES, check only the action(s) actually observed/seen or write in a short description of the in the "optional" section. (Check all that apply)  n(s) taken  Complete(d) a Notification or Report Correct(ed) Monitoring Deficiencies Correct(ed) Record Keeping Deficiencies Implemented New or Improved Management Practices or Procedures Improved Pollutant Identification (e.g., Labeling, Manifesting, Storage, etc.)

The following common air or water pollutant(s) **should only be checked** if the "Reduced Pollution" line was checked.

Water:	9 Ammonia 9BOD 9COD 9TSS 9O/G 9Total Coliform 9D.O.
	9 Metals 9 Cyanide 9 Other
	Air: 9NOx 9SO2 9PM 9VOC 9Metals 9HAPs 9CO 9Other
	ovide general compliance assistance in accordance with the policy on the Role spector in Providing Compliance Assistance During Inspections?
□ Yes	: No
• •	ovide site-specific compliance assistance in accordance with the policy on the A Inspector in Providing Compliance Assistance During Inspections?
□ Yes	: No
of actions taken	tional Information: EPA inspectors may wish to provide a narrative description by the facility or assistance to help the facility come into compliance.  The by the facility or assistance to help the facility come into compliance.  The by the facility or assistance to help the facility come into compliance.  The by the facility or assistance to help the facility come into compliance.
and Erin Traine Sites sampled: Woonasquatuck analyzed on-site	tormwater MS4 sampling inspection. EPA Inspectors participating: David Turin er.  Vulturno St; Gillen St; Woonasquatucket Ave @ Allandale Apts; and set Ave and Falco St. Partly sunny, temp. mid-60s throughout day. Samples e for NH3, surfactants, and TRC; samples sent to RI DOH lab for fecal coliform it; samples sent to OAME for pharmaceutical analysis. See inspection

# EPA Region 1 Clean Water Act Inspection Data Entry Form: 3560EZ

Inspector:			Erin Trainor		Date form c	ompleted:	9/18/20	013
Section A:	Facility In	formati	ion					
Inspection	start date:		9/17/2013		Inspection e (if more than		9/17/20	013
NPDES ID	):		RIR040000		Federal facil	lity?	No	
Name and	Location of	Facility	Inspected:				•	
	Name:		Town of North Providence	, RI	MS4			
	Address:		Various MS4 catch basins	and	outfalls			
	City:		North Providence		State:	RI	ZIP:	02911
Facility Or	n-Site Repres	sentativ	e #1:					
	Name:		Enter text					
	Title:		Enter text					
	Phone #:		Enter text	Fax	x # / email:	Enter text		
Facility Or	n-Site Repres	sentativ	e #2 (if necessary):					
	Name:		Enter text					
	Title:		Enter text					
	Phone #:		Enter text	Fax	x # / email:	Enter text		
Section B:	Complianc	e Moni	toring Information					
Complianc	e Monitorin	g Activ	ity Name:	Re	con			
Clean Wat	er Act Section	tion (choose from only one of the f			ng):			
	CWA §308	308[A][B]: NPDES			ormwater - M	S4		
	CWA §311	CWA §311: Oil and Hazardous Substances			oose an item			
	CWA §404: Permits for Dredge and Fill Material			Ch	oose an item			
Complianc	Compliance Monitoring Type:			Re	connaissance	;		
Complianc	e Monitorin	g Reaso	on:	Ag	ency Priority	7		
	If Agency F	Priority,	then specify priority(s):					
		OECA	- CAFO					
		OECA	- CAFO Region Initiative A	Areas	S			
		OECA	- CSOs w/ < 50,000 service	pop	oulation			
		OECA	- CSOs w/ >= 50,000 service	ce po	opulation			
		OECA	- MS4s Phase I					
		OECA	- MS4s Phase II					
	Ī	Region	1 - Environmental Justice					
		Region	1 - Green Economy / Green	n Inf	rastructure			
		Region	1 - Industrial Laundries					
		Region	1 - Lead Poisoning					
		Region	1 - Municipal Infrastructure	e				

Region 1 - Pollution Prevention & Resource Conse	ryation	П
Region 1 - Pollution Prevention & Resource Conse	avation	
Region 1 - Wet Weather		
Compliance Monitoring Agency Type:	EPA	
	No	
Was this a Joint Compliance Monitoring Activity?		n or leave blank if N/A
Which party had the lead?	Choose an item	1 or leave blank 11 N/A
If State lead, what was the purpose of EPA participation?	Choose an item	n or leave blank if N/A
Section C: ICDS Information		
Did you observe deficiencies (potential violations) during the inspection?		Yes
Potential excess emission in violation of regulations:		
Potential failure to complete or submit a notification, report, certification, or m	nanifest:	
follow a permit condition(s):		
follow a required sample monitoring procedure or laborator	ry procedure:	
follow or develop a required management practice or proce	dure:	
identify and manage a regulated waste or pollutant in any n	nedia:	
maintain a record or failure to disclose a document:		
maintain/inspect/repair meters, sensors, and recording equi	pment:	
obtain a permit, product approval, or certification:		
report regulated events such as spills, accidents, etc.:		
Potential incorrect use of a material (pesticide, waste, product) unapproved material:		
Potential violation of a compliance schedule in an enforceable		
If you observed deficiencies, did you communicate the deficiencies to the the inspection?	No	
If yes, did you observe the Facility take any actions during the address the deficiencies noted?	inspection to	Choose an item
If yes, what actions were taken? Choose an item	n	
If the Facility reduced pollution, what pollutant was	reduced?	Enter text
Did you provide general compliance assistance in accordance with the pol of the EPA inspector in providing compliance assistance during inspection		No
Did you provide site-specific compliance assistance in accordance with the role of the EPA inspector in providing compliance assistance during inspector.		No
Comments: A reconnaissance was conducted to locate potential sample locations in ar	n upcoming MS4	4 sampling inspection.

EPA New England Stormwater Outfall Inspection & Sampling Summary - Chelsea, MA 7/6/11

eather				,						
W	vity			Dry						
YSI Meter	Salinity Temp Conductivity		Sn	829						
YSI	Temp		O	15.8						
	Salinity		ppt	9.0						
Coordinates			GPS West (-)	-71 2202638						
Coord			ophen Cotinine xanthine Caffeine hazine zepine GPS North(+) GPS West (-)							
		Sulfamet Carbama	zepine	ΩN	0.68	1.6	0.84	QN	QN	0.78
		Sulfamet	hazine	QΝ	QΝ	QΝ	QΝ	QΝ	QΝ	QN
	PPCP ng/L		Caffeine	33	83	28	12	36	8500	11
		1,7- Dimethyl	xanthine	16	7	3.7	2.2	ΔN	4400	4
			Cotinine	11	3.6	4.1	2.1	0.74	150	3
		Acetamin	obhen	2.7	QN	2.4	7	QΝ	16000	QN
			Atenolol	ΔN	ΔN	ΔN	ΩN	ΔN	820	ND
	NH3 (mg/l)		Test St.							
	Surfactants Chlorine									
	Surfactants									
		Entero (MPN/1	(Jm00	250			2,419	411	2 419	326
	Fecal	coliform Entero (MPN/100 (MPN/1	(lm	2,400			4,300	2,400	11:10 4 600 000	930
			Time	8:15	9:40	10:05	11:20	11:15	11:10	12:15
tion			Site Name	010	015	014	005A	005B	005C	001
Location			Town	N. Providence 010	8/16/11 N. Providence 015	8/16/11 N. Providence 014	8/16/11 N. Providence 005A	8/16/11 N. Providence 005B	8/16/11 N. Providence 005C	8/16/11 N. Providence 007
			Date	8/16/11	8/16/11	8/16/11	8/16/11	8/16/11	8/16/11	8/16/11

E. coli - color key: Red ≥ 10,000 col/100ml, Orange ≥ 1260 col/100ml, Yellow ≥ 235 col/100ml, Black < 235 col/100ml
Entero - color key: Red ≥ 1000 col/100ml, Orange ≥ 350 Yellow ≥ 61 col/100ml, Black < 61 col/100ml
NH3 - color key: Red ≥ 6 mg/L, Orange ≥ 0.5 mg/L, Yellow ≥ 0.0 mg/L
Suffactants, Red ≥ 6 mg/L, Orange ≥ 0.5 mg/L, Yellow ≥ 0.25 mg/L, Black < 0.25 mg/L \*\*\* may give false positive at salinity greater than 1 ppt
PPCP color key: Pink = Concentrations greater than background
CI2 - color key: Red ≥ 1.0 mg/L, Orange ≥ 0.3 mg/L, Yellow ≥ 0.02 mg/L, Black < 0.02 mg/L

REPORTING LIMITS
E. coli = 4 MPN/100mL
Enterococus = 10 MPN/100mL
Surfactants Field = 0.1 mg/L
Ammonia Field = 0.1 mg/L

ND – not detected above the associated detection limit

NA – not applicable (analyte not tested for at that site at this time)

(-) – data reported as estimate

EPA New England Stormwater Outfall Inspection & Sampling Summary - Chelsea, MA 7/6/11

P	Location				-										Coord	Coordinates		YSI Meter	_	Weather
			Fecal		Surfactants	Chlorine	NH3 (mg/l)			PP(	PPCP ng/L						Salinity	Salinity Temp Conductivity	nductivity	
			coliform (MPN/100	Entero (MPN/1				Ă	Acetamin	Ö	1,7- Dimethyl	S	Sulfamet Carbama	arbama						
Date Town	Site Name	Time	(ju	(Jm00			Test Strip /	Atenolol	obhen Cc	Cotinine xa	xanthine	Caffeine	hazine	zepine	SPS North(+)	GPS North(+) GPS West (-)	bbt	ပ	Sn	
8/16/11 N. Providence Pearl St (010)	ce Pearl St (010)	8:15	2,400	250	0.25	0 03	0.25	QN	2.7	1	16	33	Q.	QN		-71 2202638	3 0.4	15.8	859	Dry
8/16/11 N. Providenc	N. Providence Allendale (015)	9:40			0.13	0 04	0.00	QN	QN	3.6	7	83	Q.	0 68						
8/16/11 N. Providenc	N. Providence Falco (014)	10:05			0.13	0 03	0.00	ΔN	2.4	4.1	3.7	28	QN	1.6						
8/16/11 N. Providence Gillen (005-A)	ce Gillen (005-A)	11:20	4,300	2,419	0.13	0 02	0.13	QN	7	2.1	2.2	12	QN	0 84						
8/16/11 N. Providence Gillen (005-B)	ce Gillen (005-B)	11:15	2,400	411	0.13	0 01	0.00	ΔN	QN	0.74	QN	36	QN	ND						
8/16/11 N. Providence Gillen (005-C)	ce Gillen (005-C)	11:10	11:10 4 600 000	2 419	1.00	00 0	0.88	820	16000	150	4400	8500	QN	QN						
8/16/11 N. Providence Vultoro (001	ce Vultoro (001)	12:15	930	326	0.13	00 0	0.13	ΩN	QN	က	4	11	Q.	0.78						
11/16/11 N. Providence David St	ce David St	8:30																		
11/16/11 N. Providence Metcalf	ce Metcalf	9:20																		
11/16/11 N. Providence Milton	ce Milton	9:50																		
11/16/11 N. Providence Falco (014-A)	ce Falco (014-A)	10:15																		
11/16/11 N. Providence Falco (014-B)	ce Falco (014-B)	10:20																		
11/16/11 N. Providence Smith	ce Smith	11:30																		
11/16/11 N. Providence Brookfarm	ce Brookfarm	11:50																		
11/16/11 N. Providence Mineral Spring	ce Mineral Spring	12:25																		
11/16/11 N. Providence Girard	ceGirard	12:30																		
11/16/11 N. Providence Obed	ce Obed	12:40																		
11/16/11 N. Providence Gillen 005-A	ce Gillen 005-A	1:00																		
11/16/11 N. Providence Gillen 005-B	ce Gillen 005-B	1:03																		
11/16/11 N. Providence Gillen 005-C	ce Gillen 005-C	1:05																		
Surfactants - color key. Red ≥ 1.0 mg/L, Orange ≥ 0.5 mg/L, Yellow ≥ 0 25 mg/L, Black < 0.25 mg/L *** may gi	Red ≥ 1.0 mg/L, C	Jrange ≥ (	0.5 mg/L, Y€	$sllow \ge 0.2$	5 mg/L, Black <	< 0.25 mg/L **		e positive at	ve false positive at salinity greater than 1 ppt	ter than 1 p	ppt				Ī	Ī				

PPCP color key: Pink = Concentrations greater than background Ci2 - color key: Red  $\ge$  1.0 mg/L, Orange  $\ge$  0.3 mg/L, Yellow  $\ge$  0.02 mg/L, Black < 0.02 mg/L

REPORTING LIMITS
E. coli = 4 MPN/100mL
Enterooccus = 10 MPN/100mL
Surfactants Field = 0.1 mg/L
Ammonia Field = 0.1 mg/L

ND – not detected above the associated detection limit

NA – not applicable (analyte not tested for at that site at this time)

(-) – data reported as estimate

# North Providence – Follow-up PPCP Sampling Tentatively scheduled for Nov 9, 2011

# Potential sampling stations:

- 1. Pearl Av (010)
- 2. Stream btw David and Spicer Sts (access from David St, behind bar and grill on Mineral Sp)
- 3. Stream btw Milton and Rosedale Sts, at Fruit Hill Av, op. RI College
- 4. Outfall nr end of driveway on Woonasquatucket Av, to left and opp. Metcalf Av, if found
- 5. Culverts behind Peter Blackburne, Inc, nr Falco St (014 A),
- 6. And Falco St (014 B), if both pipes flowing
- 7. Behind Cumberland Farms @ Smith St and Rt 104, if flowing
- 8. Mill St, behind post office or between P.O. and Steere Av, if found
- 9. Brook Farm Rd (019), nr Douglas Av (Rt 7)
- 10. Obed St (003), off Charles St, if flowing
- 11. Culverts under Mineral Spring Av, if accessible
- 12. Gillen Av (005 C)
- 13. Gillen Ave (005 A, if flowing)

# North Providence – Follow-up PPCP Sampling Tentatively scheduled for Nov 9, 2011

# Potential sampling stations:

- 1. Pearl Av (010)
- 2. Stream btw David and Spicer Sts (access from David St, behind bar and grill on Mineral Sp)
- 3. Stream btw Milton and Rosedale Sts, at Fruit Hill Av, op. RI College
- 4. Outfall nr end of driveway on Woonasquatucket Av, to left and opp. Metcalf Av, if found
- 5. Culverts behind Peter Blackburne, Inc, nr Falco St (014 A),
- 6. And Falco St (014 B), if both pipes flowing
- 7. Behind Cumberland Farms @ Smith St and Rt 104, if flowing
- 8. Mill St, behind post office or between P.O. and Steere Av, if found
- 9. Brook Farm Rd (019), nr Douglas Av (Rt 7)
- 10. Obed St (003), off Charles St, if flowing
- 11. Culverts under Mineral Spring Av, if accessible
- 12. Gillen Av (005 C)
- 13. Gillen Ave (005 A, if flowing)



DATE: October 18, 2013

SUBJ: MS4 Reconnaissance Inspection

Town of North Providence, Rhode Island

FROM: Erin Trainor, Inspector

TO: File

REQUESTED BY: Dave Turin (OES)

I. <u>Background Information</u>

A. Date, Time of inspection: Tuesday, September 17, 2013, 12:00 PM

B. Weather Conditions: Sunny, approximately 60 degrees F

C. USEPA Representatives: Erin Trainor

David Turin Denny Dart

D. Site Representative(s): Glenn J. Corrente

Department of Public Works

2 Mafalda Street

North Providence, RI 02904 Telephone: (401) 233-1440

Fax: (401) 233-1442

Note: The Site Representative was not contacted.

E. Address: Various locations associated with the outfall located at 457

Woonasquatucket Avenue as well as areas along Kristen Drive and Gillen Avenue within the Town of North Providence, Rhode Island municipal separate storm sewer

system (MS4).

### II. Purpose of Inspection

The purpose of the inspection was to locate potential sample areas which were identified by the Municipal Mapping Assistance Program as areas with possible illicit connections or illegal discharges that may adversely impact the water quality in the Woonasquatucket River.

# III. <u>Inspection Observations and Findings</u>

On Tuesday, September 17, 2013, EPA inspectors David Turin, Denny Dart, and Erin Trainor met with Jennifer Stout and Eric Beck of Rhode Island Department of Environmental Management (RIDEM). Inspectors reviewed areas assessed by the Municipal Mapping Assistance Program which were recommend to EPA as potential areas to sample within the Town of North Providence based on observations collected over the course of summer 2013. Inspectors then conducted a reconnaissance inspection within the Town of North Providence at locations associated with the outfall identified as "priority outfall" located at 457 Woonasquatucket Avenue, as well as areas along Kristen Drive and Gillen Avenue.

The inspectors met with RIDEM personnel at 08:40, and the inspection started in North Providence at 12:00 PM. At the time of the inspection the weather was sunny and approximately 60 degrees Fahrenheit. According to weather underground, a rain event rain event of 0.08 inches was reported on September 16, 2013 in Providence, Rhode Island. Photographs are included at the end of this report.

End of Report

Attachments: Photographs



"Priority outfall" located at 457 Woonasquatucket Avenue. The outfall depicted on the left measures approximately 36 inches in diameter, the outfall depicted in the middle measures approximately 8 inches in diameter, and the outfall depicted on the right measures approximately 48 inches in diameter.



Paper observed downstream of the "priority outfall".



Catch basin along Woonasquatucket Avenue which leads to the 48 inch outfall at the "priority outfall". Running water was heard at catch basin.



Access manhole that leads to 36 inch outfall at the "priority outfall".



Catch basin and access manhole located at 25 Whipple Road, upstream of the "priority outfall". A trickle was heard upstream.



Catch basin located along Sampson Avenue, upstream of the "priority outfall".



Close up of standing water within catch basin located along Sampson Avenue.



View of standing water located within catch basin in front of 11 Kristen Drive.



Three outfalls located along Gillen Avenue. Note: the outfall depicted on the right has had historical contamination documented by EPA in 2011, identified as "005C".



Paper observed downstream of outfall "005C".

# MUNICIPAL STORMWATER SEWER SYSTEM NORTH PROVIDENCE, RHODE ISLAND

Sampling of Stormwater Outfalls for Bacteria and Pharmaceuticals and Personal Care Products

> Sampling & Analysis Plan (SAP) August 2011

U.S. Environmental Protection Agency
EPA New England
Office of Environmental Measurement & Evaluation
Environmental Investigations & Analysis Unit

Project Manager: Dave Turin	
Signature:	Date:
EIA Field Sampling Leader: Erin Trainor	
Signature: C. P. L.	Date: 8/12/2011
EIA Field Team Leader: Jerry Keefe	
Signature:	Date: 8/18/11
Laboratory Acceptance: Dan Boudreau	. 7
Signature: Wat Buline	Date: 8/21/11

- Project Name: Sampling of Stormwater Outfalls for Bacteria and Pharmaceuticals and Personal Care Products at
- 2. Project Requested By: EPA's Office of Environmental Stewardship (OES)

3. Date of Request: June 7, 2011

4. Date of Project Initiation: August 2011

5. Project Manager: Dave Turin

6. Quality Assurance Officer: TBD

7. Project Description

### A. Objective and Scope Statement:

The Office of Environmental Measurement & Evaluation (OEME) environmental investigations and analysis team (EIA) was requested to assist with water sampling within North Providence, Rhode Island. Utilizing the stormwater outfall sampling protocol developed by the Office of Environmental Stewardship (OES), samples will be collected from stormwater outfalls for the purpose of identifying illicit connections to stormwater system outfalls. EIA staff will sample eight outfalls located in the Town of North Providence. The outfalls will be screened in the field using test kits for ammonia, chlorine, and surfactants, and analyzed at the EPA New England Regional Laboratory (NERL) for E.Coli, Enteracoccus, and Pharmaceuticals and Personal Care Products (PPCP). Additional sampling and analysis may be performed at the discretion of EIA field staff and recorded in the site field logbook.

# B. Data Usage:

Data will be used to assess levels of contamination, and to confirm the presence (or absence) of contaminants at a stormwater discharge point. Site observations, documentation, and results of sampling during these inspections will be forwarded to the OES enforcement staff for enforcement actions and information requests.

#### C. Sampling Event Design:

EIA will conduct the stormwater monitoring on August 16, 2011. Stormwater samples will be collected under guidance of EPA's Ambient Water Sampling Standard Operating Procedure (SOP) (ECASOP-Water1). Samples will be collected as grab samples. Stormwater samples will be field screened for ammonia under guidance of EPA's SOP for Measuring Ammonia using Ammonia 0-6.0mg/L (Nitrogen) Hach® 0-6.0mg/L Test Kit (EIASOP-Test Strip1), for chlorine under guidance of EPA's SOP for Measuring Pocket Colorimeter Analysis System Low Range (0.0-2.00 mg/L) - Free and Total Chlorine High Range (0.0-4.5 mg/L) - Total Chlorine (ECASOP-ChlorineSOP1), and for surfactants under guidance of EPA's SOP for Measuring Detergents using Detergents CHEMets 0-3 ppm Test Kit (ECASOP-DetergentsSOP1). Sample sites will be located using GPS, with an accuracy goal of  $\pm 1$  meter and Position Dilution of Precision (PDOP) less than 6. Less accurate GPS reading or coordinates from maps will be

accepted when site or other conditions do not allow  $\pm$  1 meter accuracy. EIA staff will conduct in-situ monitoring for temperature, conductivity, and dissolved oxygen (DO) using a YSI model 6 sonde under guidance of the OEME EMT SOP for YSI Model 6-Series Sondes and Data Logger SOP (ECASOP-YSISondes10) and/or another approved in situ monitor.

Field OC samples will consist of the following:

Calibration:

EPA will calibrate its sondes according to the EPA sonde calibration SOP.

Field duplicate:

One duplicate sample will be collected per sampling event or

approximately for every ten samples.

Trip Blank:

OEME Chemist will run appropriate QA samples for PPCP's. One blank sample will be collected for approximately every ten bacteria samples. Reported data that is less than 5 times the trip (field) blank concentration

will be flagged.

QC Criteria:

Data not meeting this criteria will be reviewed by the Project Manager.

Data that does not meet laboratory QA/QC criteria will be flagged by the

laboratory.

D. Monitoring Parameters and Frequency of Collection:

Parameter	Number of Samples	Sample Matrix	Lab SOP (LIMS code)	Sample Container	Sample Preservation	Holding Time
Fecal Coliform	8 + 1 field dup.	Water	ECASOP-TC/EC Colilert2	120 mL sterile	Ice to 6°C	8 hours
Enterococcus	8+1 field dup.	Water	ECASOP-Enterolert1	120 mL sterile	Ice to 6°C	6 hours
PPCP	8	Water	EIASOP-LCMS- STAO	1 L glass amber	Ice to 4°C (acidified in lab)	7 days to extraction 40 days after extraction

### 8. Schedule of Tasks and Products:

Date	Activity
June 2011	Request OEME field and lab support
August 2011	Sample Collection
August 2011	Sample analyses at NERL
September 2011	Deliver analytical results to Project Manager

# 9. Project Organization and Responsibility:

The following is a list of key project personnel and their responsibilities:

Responsibility Contact
Project Officer Dave Turin

Sampling Leader/Inspector Erin Trainor (EIA)
Sampling QC/Inspector Erin Trainor (EIA)
Chemistry Lead Dan Boudreau (EIA)

Laboratory Analyses EPA NE Lab chemistry staff

Data Evaluation/Lab QC
Performance Audits/QC
Dan Boudreau (EIA)
None requested at this time

### 11. Data Quality Objectives:

Accuracy and Precision values are for method internal QA/QC. The values are to be considered as goals because some specific compounds are known outside these goals.

Parameter	Sample Matrix	Reporting Limits	Accuracy (%)	Precision <sup>2</sup> (%)
E.Coli	Water	4 col/100mL	ECASOP- TotalColiformMF2	± 100 col/100mL or 30% RPD
Enterococcus	Water	1 col/100mL	TBD	± 100 col/100mL or 30% RPD
Caffeine	Water	5.0 ng/L	TBD	< 50% RPD
1,7-DMX	Water	2.5 ng/L	TBD	< 50% RPD
Acetaminophen	Water	2.5 ng/L	TBD	< 50% RPD
Carbamazepine	Water	0.5 ng/L	TBD	< 50% RPD
Primidone	Water	5.0 ng/L	TBD	< 50% RPD
Atenolol	Water	2.5 ng/L	TBD	< 50% RPD
Cotinine	Water	0.5 ng/L	TBD	< 50% RPD
Urobilin	Water	5.0 ng/L	TBD	< 50% RPD
Azithromycin	Water	1.6 ng/L	TBD	< 50% RPD

#### Footnotes:

- 1. Accuracy is based on a lab matrix spike (MS) recovery.
- 2. Precision is based on a lab duplicate, matrix spike duplicate (MSD), and/or laboratory fortified blanks (LFB).

### 12. Data Representativeness/Comparability:

Samples must be representative of the stormwater discharges. The analytical data will be compared to Water Quality Criteria/Guideline to assess compliance. 90% of the data must be valid. If data are incomplete, the Project Manager and EIA Team Leader will determine if additional sampling is needed.

### 13. Sampling Procedures

Samples will be collected according to the OEME EMT SOP for Ambient Water Sampling (ECASOP-Water1). Samples will be collected as grab samples. On the occasion that field personnel determine that any of the procedures described in this SAP or SOPs are inappropriate, inadequate or impractical and that another procedure must be used to obtain a sediment or water sample, the procedure will be documented in the field log book with a description of the circumstances requiring its use.

#### 14. Sample Custody Procedures:

Samples collected will be handled in accordance with the OEME SOP for Evidence and Sample Management (OEMESOP-EVIDENCEMANAGEMENT3). Each sample will be given a unique identification number which corresponds with the assigned monitoring well number. Samples will be handled by EIA chemistry staff according to the SOP for Sample Login, Tracking, and

Sample Disposition (EIASOP-ADMLOG15.SOP).

# 16. Documentation and Data Reduction, and Reporting:

All information will be recorded in the samplers log books, or on field data sheets, in addition to completion of all chain of custody forms, labels, etc. Any photographs taken will be documented in the field log book and included in the inspection report. Analytical data will be tabulated by the laboratory and reported to the Project Manager in accordance to NERL procedures and the NERL QAPP. EIA field reporting will be in accordance with EIA's report SOP [EIASOP\_Report Prep\_Review\_Distribution]

#### 17. Data Validation:

Data will be reviewed by routine laboratory procedures as specified in the NERL QAPP - 3/31/2010, Section 11 Data Reduction, Reporting, and Internal Verification. Data will be validated against the criteria presented in sections 7D, 11, and 12 of this SAP. Any limitations on the use of data will be documented and explained. Field data will be compiled and reviewed by the Sampling Leader and any corrective actions or issues that are needed will be brought to the EIA Team Leader.

### 18. Performance and Systems Audits:

May be performed by the QA Office as requested by the Project Manager.

#### 19. Corrective Action:

Any corrective action will be determined by the Sampling Leader and documented in the field logbook as necessary and discussed with the Project Manager and EIA team leader.

20. Inspection and Analytical Reports will be sent to: Dave Turin, OES - Water Technical Unit

2			



### United States Environmental Protection Agency Office of Environmental Measurement & Evaluation 11 Technology Drive North Chelmsford, MA 01863-2431

### Laboratory Report

February 26, 2014

Erin Trainor - EIA / OEME US EPA New England R1

Project Number: 14020019 Project: Providence RI, MS4

Analysis: HPLC/MS/MS Source Tracking Analysis

EPA Chemist: Peter Philbrook

Date Samples Received by the Laboratory: 02/21/2014

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, EIA-LCMS\_STA.1.

The SOP is based on an EPA Regional Analytical Method developed at the EPA New England Laboratory.

Data were reviewed in accordance with the internal verification procedures described in the EPA New England Quality Manual for NERL.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

If you have any questions please call me at 617-918-8340.

Sincerely,

Digitally signed by Dan Boudreau DN: cn=Dan Boudreau, o=EPA, ou=EIA, email=boudreau.dan@epa.gov, c=US

14020019\$STA

Date: 2014.02.26 12:14:35 -05'00'

# Qualifiers:

- **RL** Reporting limit
- **ND** Not Detected above reporting limit
- **B** Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 3X the concentration in the blank.

### Providence RI, MS4

# **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID: Niantic-1 Lab Sample ID: AB46483 2/21/2014 Date of Collection: Water Matrix: Date of Preparation: 2/24/2014 Volume Extracted (mL): 500 Date of Analysis: 2/25/2014 Extract Dilution: 1

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Cotinine	33	0.40	
103-90-2	Acetaminophen	10	2.0	
486-56-6	Atenolol	3.2	2.0	
611-59-6	1,7-Dimethylxanthine	12	2.0	
58-08-2	Caffeine	120	4.0	
298-46-4	Metoprolol	ND	2.0	
56392-17-7	Carbamazepine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	42	54 - 110
Sulfamethazine 13C6	80	20 - 124

### Providence RI, MS4

### **Laboratory Blank**

Client Sample ID: N/A Lab Sample ID: N/ADate of Collection: N/A Matrix: Water Date of Preparation: 2/24/2014 Volume Extracted (mL): 500 Date of Analysis: 2/25/2014 Extract Dilution: 1

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Cotinine	ND	0.40	
103-90-2	Acetaminophen	ND	2.0	
486-56-6	Atenolol	ND	2.0	
611-59-6	1,7-Dimethylxanthine	ND	2.0	
58-08-2	Caffeine	ND	4.0	
298-46-4	Metoprolol	ND	2.0	
56392-17-7	Carbamazepine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	89	54 - 110
Sulfamethazine 13C6	65	20 - 124

# Providence RI, MS4

# MATRIX SPIKE (MS) RECOVERY

Sample ID: AB46483

PARAMETER	SPIKE ADDED ng/L	SAMPLE CONCENTRATION ng/L	MS CONCENTRATION ng/L	MS % REC	QC LIMITS (% REC)
		<u> </u>			
1,7-Dimethylxanthine	120.0	12	148	113	13 - 174
Acetaminophen	120.0	10	88.4	65	23 - 138
Atenolol	120.0	3.2	122	99	49 - 137
Caffeine	240.0	120	372	105	31 - 156
Carbamazepine	24.0	ND	20.3	85	47 - 143
Cotinine	24.0	33	48.0	63	46 - 121
Metoprolol	120.0	ND	140	117	60 - 140

# Providence RI, MS4

# **Laboratory Duplicate Results**

Sample ID: AB46483

PARAMETER	SAMPLE RESULT ng/L	SAMPLE DUPLICATE RESULT ng/L	PRECISION RPD %	QC LIMITS
1,7-Dimethylxanthine	12	13	8.00	50
Acetaminophen	10	8.6	15.1	50
Atenolol	3.2	2.6	20.7	50
Caffeine	120	150	22.2	50
Carbamazepine	ND	ND	ND	50
Cotinine	33	35	5.88	50
Metoprolol	ND	ND	ND	50

### Providence RI, MS4

# Laboratory Fortified Blank (LFB) Results

PARAMETER	LFB AMOUNT SPIKED ng/L	LFB RESULT ng/L	LFB RECOVERY %	QC LIMITS %
1,7-Dimethylxanthine	120	115	96	64 - 135
Acetaminophen	120	93.1	78	48 - 122
Atenolol	120	101	84	52 - 128
Caffeine	240	222	93	68 - 126
Carbamazepine	24	23.9	100	65 - 121
Cotinine	24	24.0	100	60 - 120
Metoprolol	120	117	98	60 - 140

**Comments:** 

**Samples in Batch:** AB46483

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### **United States Environmental Protection Agency** Office of Environmental Measurement & Evaluation 11 Technology Drive North Chelmsford, MA 01863-2431

### Laboratory Report

September 01, 2011

Erin Trainor - EIA / OEME US EPA New England R1

Project Number: 11080036

Project: MS4 Outfalls -Providence, RI

Analysis: HPLC/MS/MS Source Tracking Analysis

Analyst:

Peter Philbrook

PEP 9/1/2011

### Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, EIA-LCMS STA.0.

The SOP is based on an EPA Regional Analytical Method developed at the EPA New England Laboratory.

Date Samples Received by the Laboratory: 08/16/2011

Data were reviewed in accordance with the internal verification procedures described in the EPA New England OEME Chemistry QA Plan.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

Report may contain multiple sections and each section will be numbered independently.

If you have any questions please call me at 617-918-8340

Bullen 9/9/11

Sincerely,

Dániel N Boudreau

Chemistry Team Leader

# **DATA QUALIFIERS**

- RL Reporting limit
- J Estimated value
- E Estimated value exceeds the calibration range
- L Estimated value is below the calibration range
- B Analyte is associated with the lab blank or trip blank contamination.
- R No recovery was calculated since the analyte concentration is greater than four times the spike level.
- ND Not Detected above Reporting limit
- NA Not Applicable due to high sample dilutions or sample interferences
- ME Matrix Effect Sample matrix was responsible for either enhanced or suppressed ionization within the electrospray ionization probe

### **NARRATIVE**

Aqueous samples (500mL) were extracted using a solid phase extraction (SPE) technique, following EPA Method 1694, in which samples were passed through a cartridge containing a solid sorbent material which pre-concentrates the target compounds onto the sorbent. The target compounds (TCs) were then eluted off the sorbent material using methanol. The resulting eluant is concentrated to dryness and re-constituted to a final volume of 1 mL with 20/80 Methanol/Water.

A 5uL aliquot of the sample extract was injected into a High Performance Liquid Chromatograph (HPLC), and the TCs were separated chromatographically using a C8 HPLC column running a methanol / water gradient. The ionization mode used was electrospray with the polarity operating in the positive mode. The TCs were detected using a Waters Acquity TQD Tandem Quadrupole Mass Spectrometer. The tandem quadrupole is used to perform multiple reaction monitoring (MRM) where the precursor ion of interest is fragmented to product ion(s).

Quantitation was performed by the internal standard calibration method using isotopically labeled analogues. Sulfamethazine 13C6 and Primidone d5 were used as a surrogate compounds to monitor extraction efficiency.

### MS4 Outfalls -Providence, RI

# **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID: 010 AB20744 Lab Sample ID: Date of Collection: 8/16/2011 Matrix Water Date of Extraction: 08/17/2011 Final Volume: 1 mL Date of Analysis: 08/25/2011 Extract Dilution: 1 Volume Extracted: 500 mL pH: 7.56

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Atenolol	ND	2.0	
103-90-2	Acetaminophen	2.7	2.0	
486-56-6	Cotinine	11	0.4	
611-59-6	1,7-Dimethylxanthine	1.6	2.0	L
58-08-2	Caffeine	33	4.0	
298-46-4	Carbamazepine	ND	0.4	
57-68-1	Sulfamethazine	ND	0.4	

Surrogate Compounds	Recoveries (%)	<b>QC</b> Ranges
Primidone d5	81	23 - 181
Sulfamethazine 13C6	36	15 - 132

### MS4 Outfalls -Providence, RI

# **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID:

015

Date of Collection:

8/16/2011

Date of Extraction:

08/17/2011

Date of Analysis: Volume Extracted: 08/25/2011 500 mL Lab Sample ID:

AB20745

Matrix

Water

Final Volume:

1 mL

Extract Dilution: 1 pH: 7.

7.89

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Atenolol	ND	2.0	
103-90-2	Acetaminophen	ND	2.0	
486-56-6	Cotinine	3.6	0.4	
611-59-6	1,7-Dimethylxanthine	7.0	2.0	
58-08-2	Caffeine	8.3	4.0	
298-46-4	Carbamazepine	0.68	0.4	
57-68-1	Sulfamethazine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	98	23 - 181
Sulfamethazine 13C6	55	15 - 132

### MS4 Outfalls -Providence, RI

# **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID: 014 AB20746 Lab Sample ID: Date of Collection: 8/16/2011 Matrix Water Date of Extraction: 08/17/2011 Final Volume: 1 mL Date of Analysis: 08/25/2011 Extract Dilution: 1 Volume Extracted: 500 mL pH: 7.49

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Atenolol	ND	2.0	
103-90-2	Acetaminophen	2.4	2.0	
486-56-6	Cotinine	4.1	0.4	
611-59-6	1,7-Dimethylxanthine	3.7	2.0	
58-08-2	Caffeine	28	4.0	
298-46-4	Carbamazepine	1.6	0.4	
57-68-1	Sulfamethazine	ND	0.4	

Surrogate Compounds	Recoveries (%)	<b>QC</b> Ranges
Primidone d5	78	23 - 181
Sulfamethazine 13C6	45	15 - 132

### MS4 Outfalls -Providence, RI

# **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID:

005A

Date of Collection:

8/16/2011

Date of Extraction:

08/17/2011

Date of Analysis:

08/25/2011

Volume Extracted:

500 mL

Lab Sample ID:

AB20747

Matrix

Water 1 mL

Final Volume: Extract Dilution: 1

pH:

6.71

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Atenolol	ND	2.0	
103-90-2	Acetaminophen	7.0	2.0	
486-56-6	Cotinine	2.1	0.4	
611-59-6	1,7-Dimethylxanthine	2.2	2.0	
58-08-2	Caffeine	12	4.0	
298-46-4	Carbamazepine	0.84	0.4	
57-68-1	Sulfamethazine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	89	23 - 181
Sulfamethazine 13C6	46	15 - 132

### MS4 Outfalls -Providence, RI

# **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID: 005B AB20748 Lab Sample ID: Date of Collection: 8/16/2011 Matrix Water Date of Extraction: 08/17/2011 Final Volume: 1 mL Date of Analysis: 08/25/2011 Extract Dilution: 1 Volume Extracted: 500 mL pH: 6.86

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Atenolol	ND	2.0	
103-90-2	Acetaminophen	ND	2.0	
486-56-6	Cotinine	0.74	0.4	
611-59-6	1,7-Dimethylxanthine	ND	2.0	
58-08-2	Caffeine	3.6	4.0	L
298-46-4	Carbamazepine	ND	0.4	
57-68-1	Sulfamethazine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	95	23 - 181
Sulfamethazine 13C6	57	15 - 132

# MS4 Outfalls -Providence, RI

# **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID:

005C

Lab Sample ID:

AB20749

Date of Collection:

8/16/2011

Matrix

Water

Date of Extraction:

08/17/2011

Final Volume:

1 mL

Date of Analysis: Volume Extracted: 08/25/2011 500 mL

pH:

Extract Dilution: 1 7.98

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Atenolol	820	20.0	
103-90-2	Acetaminophen	16000	200.0	
486-56-6	Cotinine	150	4.0	
611-59-6	1,7-Dimethylxanthine	4400	400.0	
58-08-2	Caffeine	8500	400.0	
298-46-4	Carbamazepine	ND	0.4	
57-68-1	Sulfamethazine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	96	23 - 181
Sulfamethazine 13C6	55	15 - 132

Comments: Sample was run at a 1X, 10X, and 100X dilutions.

# MS4 Outfalls -Providence, RI

# **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID:

001

0/1//2011

Lab Sample ID:

AB20750

Date of Collection:

8/16/2011

Matrix

Water

Date of Extraction:

08/17/2011

Final Volume:

1 mL

Date of Analysis:

08/25/2011

Extract Dilution: 1 pH: 7.

7.82

Volume Extracted:

460 mL

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Atenolol	ND	2.2	
103-90-2	Acetaminophen	ND	2.2	
486-56-6	Cotinine	3.0	0.4	
611-59-6	1,7-Dimethylxanthine	4.0	2.2	
58-08-2	Caffeine	11	4.4	
298-46-4	Carbamazepine	0.78	0.4	
57-68-1	Sulfamethazine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	110	23 - 181
Sulfamethazine 13C6	71	15 - 132

Comments:

# MS4 Outfalls -Providence, RI

# Laboratory Blank

Client Sample ID:

N/A

Lab Sample ID:

N/A

Date of Collection:

N/A

Matrix

Water

Date of Extraction: Date of Analysis:

08/17/2011 08/25/2011

Final Volume:

1 mL Extract Dilution: 1

Volume Extracted:

500 mL

pH:

6.57

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Atenolol	ND	2.0	
103-90-2	Acetaminophen	ND	2.0	
486-56-6	Cotinine	ND	0.4	
611-59-6	1,7-Dimethylxanthine	ND	2.0	
58-08-2	Caffeine	ND	4.0	
298-46-4	Carbamazepine	ND	0.4	
57-68-1	Sulfamethazine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Sulfamethazine 13C3	62	
Primidone d5	84	

Comments:

# MATRIX SPIKE RECOVERY

MS4 Outfalls -Providence, RI

Sample ID: AB20750

PARAMETER	SPIKE ADDED ng/L	SAMPLE CONCENTRATION ng/L	MS CONCENTRATION ng/L	MS % REC	QC LIMITS (% REC)
1,7-Dimethylxanthine	120	4.0	76	60.0	7 - 120
Acetaminophen	120	ND	80	66.7	1 - 120
Atenolol	120	ND	91	75.8	40 - 146
Caffeine	240	11	204	80.4	12 - 138
Carbamazepine	24	0.78	8.7	33.0	27 - 144
Cotinine	24	3.0	21	75.0	48 - 131
Sulfamethazine	24	ND	12	50.0	30 - 130

# LABORATORY FORTIFIED BLANK (LFB) RECOVERY

MS4 Outfalls -Providence, RI

COMPOUND	SPIKE ADDED ng/L	LFB CONCENTRATION ng/L	LFB RECOVERY %	QC LIMITS (% REC)
1,7-Dimethylxanthine	120	113	94.2	14 - 155
Acetaminophen	120	98	81.7	43 - 129
Atenolol	120	107	89.2	45 - 136
Caffeine	240	205	85.4	57 - 132
Carbamazepine	24	21	87.5	39 - 136
Cotinine	24	19	79.2	60 - 127
Sulfamethazine	24	17	70.8	30 - 130

Comments:

# **Laboratory Duplicate Results**

Sample ID: AB20702

PARAMETER	SAMPLE RESULT ng/L	SAMPLE DUPLICATE RESULT ng/L	PRECISION RPD %	QC LIMITS
1,7-Dimethylxanthine	1.7	1.1	42.9	50
Acetaminophen	ND	ND	ND	50
Atenolol	ND	ND	ND	50
Caffeine	ND	ND	ND	50
Carbamazepine	ND	ND	ND	50
Cotinine	0.51	0.53	3.85	50
Sulfamethazine	ND	ND	ND	50

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1-17405

# EPA Region 1 Clean Water Act Inspection Data Entry Form: 3560EZ

Version 1.03

Inspector:		Erin Trainor		Date for	m completed	l:	6/19/2014
Section A	Facility Inf	ormation					
Inspection	start date:	6/5/2014	Ins	pection s	tart time:	09:05	5
Inspection (if more th	end date an one day):	6/5/2014	Insj	Inspection finish time: 14:00		)	
NPDES ID	):	RIR040005	Fed	leral faci	lity?	No	
Name and	Location of I	Facility Inspected:					
	Name:	City of Providence MS4					
	Address:	Mashpaug Pond neighborhood					
	City:	Providence		State:	RI	ZIP:	02914
Facility Re	presentative	#1:					
	Name:	Ed Sanchez			ce Parks Department		
	Address (if off-site):	1000 Elmwood Ave.					
	City:	Providence		State:	RI	ZIP:	02907
	Phone #:	(401) 785-9450		Email:	Enter text		
Facility Re	presentative	#2 (if necessary):	•		•		
	Name:	Enter text		Title:	Enter text		
	Address (if off-site):	Enter text					
	City:	Enter text		State:	Enter text	ZIP:	Enter text
	Phone #:	Enter text		Email:	Enter text		
		e Monitoring Information					
Clean Wat	er Act Sectio	n (choose from only one of the fol	llow	ing):			
	CWA §308[	A][B]: NPDES	Sto	rmwater	er - MS4		
	CWA §311:	Oil and Hazardous Substances	Cho	oose an it	tem		
	CWA §404: Material	Permits for Dredge and Fill	Cho	oose an it	tem		
Complianc	e Monitoring	Type:	Ins	pection v	v/ Sampling		
Complianc	e Monitoring	g Reason:	Age	ency Pric	ority		
	If Agency P	riority, then specify priority(s):					
	(	DECA - CAFO					
	(	DECA - CAFO Region Initiative A	Areas	S			
	(	OECA - CSOs w/ < 50,000 service	pop	oulation			
	(	DECA - CSOs w/ >= 50,000 service	ce po	pulation			
	(	OECA - MS4s Phase I					
	(	OECA - MS4s Phase II					$\boxtimes$

	OECA - SSOs ≥ 10 MGD and < 100 MGD						
	Region 1 - Environmental Justice	Region 1 - Environmental Justice					
	Region 1 - Green Economy / Green Infrastructure						
	Region 1 - Industrial Laundries						
	Region 1 - Lead Poisoning						
	Region 1 - Municipal Infrastructure						
	Region 1 - Pollution Prevention & Resource Conservation						
	Region 1 - Ship / Boat Yards						
	Region 1 - Wet Weather						
Complianc	Compliance Monitoring Agency Type: EPA						
	Was this a Joint Compliance Monitoring Activity?  No						
	If Joint, which party had the lead?	Choose an item	or leave blank if N/A				
	If State lead, what was the purpose of EPA participation?  Choose an item of leave blank if N/A						
	ICDS Information						
Did you ol	serve deficiencies (potential violations) during the inspection?		Choose an item				
	Potential excess emission in violation of regulations:		Ш				
Potential failure to							
	complete or submit a notification, report, certification, or manifest:						
follow a permit condition(s):							
	follow a required sample monitoring procedure or laboratory procedure:						
	follow or develop a required management practice or procedure: identify and manage a regulated waste or pollutant in any media:						
	maintain a record or failure to disclose a document:	ilicaia.					
	maintain/inspect/repair meters, sensors, and recording equi	nment:					
	obtain a permit, product approval, or certification:	pinent.					
	report regulated events such as spills, accidents, etc.:						
	Potential incorrect use of a material (pesticide, waste, product	) or use of an					
	unapproved material:	,	Ш				
	Potential violation of a compliance schedule in an enforceable	order:					
	erved deficiencies, did you communicate the deficiencies to the inspection?	Facility	No				
	If yes, did you observe the Facility take any actions during the inspection to address the deficiencies noted?						
	If yes, what actions were taken? Choose an item						
	If the Facility reduced pollution, what pollutant was	reduced?	Enter text				
	Did you provide <i>general compliance assistance</i> in accordance with the policy on the role of the EPA inspector in providing compliance assistance during inspections?						
	Did you provide <i>site-specific compliance assistance</i> in accordance with the policy on the role of the EPA inspector in providing compliance assistance during inspections?						
~							
Comments	:						
Enter text							

50 Orms Street Providence RI 02904 Phone: (401) 222-5600 Fax: (401)

# - CERTIFICATE OF ANALYSIS -

 Analysis Req.
 Today's
 24-Aug-11

 PWSID:
 DEM
 Lab
 20110816014

PWS SampleID 776724

ContactPETER C. NAUMANNSource235 PROMENADE ST.FacilityPROVIDENCERI 02908Sample Point

Description:

**Collected** PETER C.

Sample Collection 8/16/2011 Collection PEARL ST. STREAM 010, NORTH

Sample Receipt 8/16/2011 Sample Completed 8/23/2011

Analytical Method	Test	Test	Flag	Result	Units	Reportin g Limit	Analysis Date
SM9221B,D							
	PRESUMPTIVE	SM01		3332000			8/16/2011
	CONFIRMED, TOTAL	SM01		3-3-3-2			8/16/2011
	FECAL COLIFORM	SM01		3-3-3-0			8/16/2011
	DILUTION CODE	SM01		В			8/16/2011
	MPN RESULT TOTAL COLIFORM	SM01		11,000			8/16/2011
	MPN RESULT FECAL COLIFORM	SM01		2,400			8/16/2011
<b>IDEXX</b>							
	ENTEROCCI COUNT	SM37		249.5	MPN/100M	10	8/16/2011

50 Orms Street Providence RI 02904 Phone: (401) 222-5600 Fax: (401)

# - CERTIFICATE OF ANALYSIS -

 Analysis Req.
 Today's
 24-Aug-11

 PWSID:
 DEM
 Lab
 20110816015

PWS SampleID 776725

Contact PETER C. NAUMANN Source 235 PROMENADE ST. Facility

PROVIDENCE RI 02908 Sample Point Description:

**Collected** PETER C.

Sample Collection 8/16/2011 Collection WOONASQUATUCKET RIVER @

Sample Receipt 8/16/2011 Sample Completed 8/23/2011

Analytical Method	Test	Test	Flag	Result	Units	Reportin g Limit	Analysis Date
SM9221B,D							
	PRESUMPTIVE	SM01		3333000			8/16/2011
	CONFIRMED, TOTAL	SM01		3-3-3-2			8/16/2011
	FECAL COLIFORM	SM01		3-3-2-1			8/16/2011
	DILUTION CODE	SM01		В			8/16/2011
	MPN RESULT TOTAL COLIFORM	SM01		11,000			8/16/2011
	MPN RESULT FECAL COLIFORM	SM01		1,500			8/16/2011
IDEXX							
	ENTEROCCI COUNT	SM37		1,553.07	MPN/100M	10	8/16/2011

50 Orms Street Providence RI 02904 Phone: (401) 222-5600 Fax: (401)

# - CERTIFICATE OF ANALYSIS -

 Analysis Req.
 Today's
 24-Aug-11

 PWSID:
 DEM
 Lab
 20110816016

PWS SampleID 776726

ContactPETER C. NAUMANNSource235 PROMENADE ST.FacilityPROVIDENCERI 02908Sample Point

Description:

**Collected** PETER C.

Sample Collection 8/16/2011 Collection WOONASQUATUCKET RIVER @

Sample Receipt 8/16/2011 Sample Completed 8/23/2011

Analytical Method	Test	Test	Flag	Result	Units	Reportin g Limit	Analysis Date
SM9221B,D							
	PRESUMPTIVE	SM01		3332100			8/16/2011
	CONFIRMED, TOTAL	SM01		3-3-3-2			8/16/2011
	FECAL COLIFORM	SM01		3-3-3-0-0			8/16/2011
	DILUTION CODE	SM01		В			8/16/2011
	MPN RESULT TOTAL COLIFORM	SM01		9,300			8/16/2011
	MPN RESULT FECAL COLIFORM	SM01		2,300			8/16/2011
IDEXX							
	ENTEROCCI COUNT	SM37		648.8	MPN/100M	10	8/16/2011

50 Orms Street Providence RI 02904 Phone: (401) 222-5600 Fax: (401)

# - CERTIFICATE OF ANALYSIS -

 Analysis Req.
 Today's
 24-Aug-11

 PWSID:
 DEM
 Lab
 20110816017

PWS SampleID 776728

ContactPETER C. NAUMANNSource235 PROMENADE ST.FacilityPROVIDENCERI 02908Sample Point

Description:

Collected PETER C.

Sample Collection 8/16/2011 Collection GILLEN ST. PIPE 005 A

Sample Receipt 8/16/2011 Sample Completed 8/23/2011

Analytical Method	Test	Test	Flag Result	Units	Reportin g Limit	Analysis Date
SM9221B,D						
	PRESUMPTIVE	SM01	3332210			8/16/2011
	CONFIRMED, TOTAL	SM01	3-3-3-2-1-	0		8/16/2011
	FECAL COLIFORM	SM01	3-3-3-1-0-	0		8/16/2011
	DILUTION CODE	SM01	В			8/16/2011
	MPN RESULT TOTAL COLIFORM	SM01	15,000			8/16/2011
	MPN RESULT FECAL COLIFORM	SM01	4,300			8/16/2011
IDEXX						
	ENTEROCCI COUNT	SM37	2,419.17	MPN/100	M 10	8/16/2011

50 Orms Street Providence RI 02904 Phone: (401) 222-5600 Fax: (401)

# - CERTIFICATE OF ANALYSIS -

 Analysis Req.
 Today's
 24-Aug-11

 PWSID:
 DEM
 Lab
 20110816018

PWS SampleID 776729

Contact PETER C. NAUMANN
235 PROMENADE ST.
Facility

PROVIDENCE RI 02908 Sample Point Description:

**Collected** PETER C.

Sample Collection 8/16/2011 Collection GILLEN ST. PIPE 005 B

Sample Receipt 8/16/2011 Sample Completed 8/23/2011

Analytical Method	Test	Test	Flag	Result	Units	Reportin g Limit	Analysis Date
SM9221B,D							
	PRESUMPTIVE	SM01		3331000			8/16/2011
	CONFIRMED, TOTAL	SM01		3-3-3-1			8/16/2011
	FECAL COLIFORM	SM01		3-3-3-0			8/16/2011
	DILUTION CODE	SM01		В			8/16/2011
	MPN RESULT TOTAL COLIFORM	SM01		4,600			8/16/2011
	MPN RESULT FECAL COLIFORM	SM01		2,400			8/16/2011
IDEXX							
	ENTEROCCI COUNT	SM37		410.6	MPN/100M	10	8/16/2011

50 Orms Street Providence RI 02904 Phone: (401) 222-5600 Fax: (401)

# - CERTIFICATE OF ANALYSIS -

 Analysis Req.
 Today's
 24-Aug-11

 PWSID:
 DEM
 Lab
 20110816019

PWS SampleID 776730

Contact PETER C. NAUMANN
235 PROMENADE ST.
Facility

PROVIDENCE RI 02908 Sample Point Description:

Collected PETER C.

Sample Collection 8/16/2011 Collection GILLEN ST. PIPE 005 C

Sample Receipt 8/16/2011 Sample Completed 8/23/2011

Analytical Method	Test	Test	Flag Result Units	Reportin g Limit	Analysis Date
SM9221B,D					
	PRESUMPTIVE	SM01	3333333		8/16/2011
	CONFIRMED, TOTAL	SM01	3333333		8/16/2011
	FECAL COLIFORM	SM01	3333331		8/16/2011
	DILUTION CODE	SM01	В		8/16/2011
	MPN RESULT TOTAL COLIFORM	SM01	>=24,000,000		8/16/2011
	MPN RESULT FECAL COLIFORM	SM01	4,600,000		8/16/2011
IDEXX					
	ENTEROCCI COUNT	SM37	>2,419.2 MPN/100M	10	8/16/2011

50 Orms Street Providence RI 02904 Phone: (401) 222-5600 Fax: (401)

# - CERTIFICATE OF ANALYSIS -

 Analysis Req.
 Today's
 24-Aug-11

 PWSID:
 DEM
 Lab
 20110816020

PWS SampleID 776731

ContactPETER C. NAUMANN<br/>235 PROMENADE ST.Source<br/>Facility

PROVIDENCE RI 02908 Sample Point Description:

**Collected** PETER C.

Sample Collection 8/16/2011 Collection VOLTURNO ST. PIPE 001

Sample Receipt 8/16/2011 Sample Completed 8/23/2011

Analytical Method	Test	Test	Flag	Result	Units	Reportin g Limit	Analysis Date
SM9221B,D							
	PRESUMPTIVE	SM01		3331000			8/16/2011
	CONFIRMED, TOTAL	SM01		3-3-3-0			8/16/2011
	FECAL COLIFORM	SM01		3-3-2-0			8/16/2011
	DILUTION CODE	SM01		В			8/16/2011
	MPN RESULT TOTAL COLIFORM	SM01		2,400			8/16/2011
	MPN RESULT FECAL COLIFORM	SM01		930			8/16/2011
IDEXX							
	ENTEROCCI COUNT	SM37		325.5	MPN/100M	10	8/16/2011



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION I

DATE: July 10, 2014

SUBJ: City of Providence, Rhode Island

MS4 Compliance Inspection

FROM: Erin Trainor, Inspector

TO: File

REVIEWED BY: Dave Turin (OES) 7/10/14

REQUESTED BY: Ray Cody (OEP)

# I. Background Information

A. Date, Time of inspection: Thursday, June 5, 2014, 9:05 AM

B. Weather Conditions: Overcast and cool with periods of heavy rain, approximately

60 degrees F

C. USEPA Representatives: Erin Trainor (EIA)

Ray Cody (OEP)

D. Site Representative: Edwin Sanchez

City of Providence Parks Department

1000 Elmwood Ave., Providence, RI 02907

(401) 785-9450

E. Address: Various locations within the City of Providence, Rhode

Island Mashapaug Pond MS4 drainage area.

### II. Purpose of Inspection

The purpose of the inspection was to determine the presence or absence of illicit connections or illegal discharges within the City of Providence Municipal Separate Stormwater Sewer System (MS4) that may adversely impact the water quality into an infiltration basin structure best management practice (BMP) which is currently being constructed within JT Owens Park. Samples were collected from two outfalls within a single access manhole in accordance with the Environmental Investigations and Analysis (EIA) unit Stormwater Program Plan.

# III. <u>Description of Sampling Location</u>

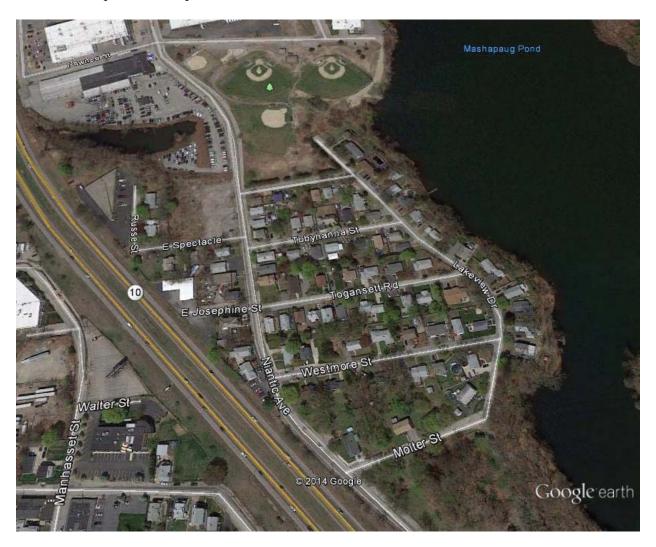
- Access manhole located along Niantic Avenue at the intersection with Swanson Street, adjacent to JT Owens Park, identified as "Niantic-E-1". Sample "Niantic-E-1" was collected from the southern outfall pipe.
- Access manhole located along Niantic Avenue at the intersection with Swanson Street, adjacent to JT Owens Park, identified as "Swanton-N". Sample "Swanton-N" was collected from the southeastern outfall pipe and was assumed to represent street runoff from the north side of Swanton Street.

The following locations were inspected but not sampled:

- Access manhole located along the west side of Niantic Avenue across from the intersection with Swanson Street, identified as "Niantic-W-1". Trash/debris was removed from "Niantic-W-1" by the City of Providence Department of Public Works (DPW) at the time of inspection. "Niantic-W-1" appeared to collect only street runoff from Niantic Avenue and direct flow slightly south of "Niantic-E-1".
- Access manhole located along the south side of Swanton Street at the intersection with Niantic Avenue, identified as "Swanton-S". "Swanton-S" appeared to collect only street runoff from the south side of Swanton Street and direct flow slightly south of "Niantic-E-1".
- Access manhole located along Niantic Avenue at the intersection with Tobyhanna Street, identified as "Niantic-E-2". "Niantic-E-2" appeared to collect street runoff from Niantic Avenue as well as flows from "Niantic-W-2" (see below) and direct flow towards "Niantic-E-1".
- Access manhole located along the west side of Niantic Avenue across from the intersection with Tobyhanna Street, identified as "Niatic-W-2". "Niantic-W-2" appeared to collect street runoff from Niantic Avenue as well as flow from "Niantic-W-3" and direct flow towards "Niantic-E-2".
- Access manhole located along the north side of Tobyhanna Street at the intersection with Niantic Avenue, identified as "Tobyhanna-N". "Tobyhanna-N" appeared to collect only street runoff from the north side of Tobyhanna Street and direct flow slightly north of "Niantic-E-2".
- Access manhole located along the south side of Tobyhanna Street at the intersection with Niantic Avenue, identified as "Tobyhanna-S". "Tobyhanna-S" appeared to collect only street runoff from the south side of Tobyhanna Street and direct flow slightly north of "Niantic-E-2".
- Access manhole located along Niantic Avenue at the intersection with Togansett Street,

identified as "Niantic-E-3". "Niantic-E-3" was full of trash/debris at the time of inspection, and flow rate/direction could not be determined. DPW personnel explained the catch basins would be scheduled to be cleaned out.

• Access manhole located along the west side of Niantic Avenue across from the intersection with Togansett Road, identified as "Niantic-W-3". "Niantic-W-3" was full of trash/debris at the time of inspection, and flow rate/direction could not be determined. DPW personnel explained the catch basins would be scheduled to be cleaned out.



# IV. <u>Inspection Observations and Findings</u>

On Thursday, June 5, 2014, EPA inspector Erin Trainor conducted a compliance sampling inspection of the Mashapaug Pond MS4 drainage area within the City of Providence at the locations described in Section III. She was accompanied by Ray Cody (OEP), Edwin Sanchez of the City of Providence Parks and Recreation Department, and D. Morel and Jose de los Santos, both of the City of Providence Department of Public Works.

The inspection started in Providence at approximately 9:05 AM. At the time of the inspection, the weather was overcast and cool, approximately 60 degrees Fahrenheit. According to <a href="https://www.wunderground.com">www.wunderground.com</a>, weather station KRIPROVI8, there was a trace amount of rain recorded on June 4, 2014. Approximately 0.3 inches of rain was recorded on June 5, 2014 prior to collecting a sample. Rainfall from 13:00-14:00 produced enough flow to collect a sample from the Mashapaug Pond drainage area. The recorded total rainfall from this hour is approximately 0.66 inches. The sampling area was not tidally influenced.

The City of Providence is covered under municipal NPDES permit RIR040005.

The sampling locations described in Section III analyzed at Alpha Analytical located in Westborough, Massachusetts for E.Coli, Enterococcus, and Fecal Coliform and Pharmaceutical and Personal Care Products (PPCPs) including: Atenolol, Acetaminophen, Cotinine, 1,7-Dimethylxanthine, Caffeine, Carbamazepine, and Metoprolol at the EPA New England Regional Laboratory (NERL). The following table summarizes the findings.

Summary of Providence, RI Mashapaug Pond MS4 Inspection, June 5, 2014

Commence of the commence of th		
Sample ID	Niatic-E-1	Swanton-N
Time	13:08	13:38
Latitude/Longitude	41.792235 N, -71.437397 W	41.792235 N, -71.437397 W
Description of Location	Access manhole located along Niantic Avenue at the intersection with Swanson Street, adjacent to JT Owens Park. Sample was collected from the southern outfall pipe within access manhole.	Access manhole located along Niantic Avenue at the intersection with Swanson Street, adjacent to JT Owens Park. Sample was collected from the southeastern outfall pipe within access manhole.
Physical Observations	Manhole cleared of trash and debris prior to sample collection. Cigarette butts observed. Dog mass adjacent to catch basin along fence line of JT Owens Park.	Manhole cleared of trash and debris prior to sample collection. Cigarette butts observed. Dog mass adjacent to catch basin along fence line of JT Owens Park.
Atenolol, ng/l	ND	ND
Acetaminophen, ng/l	21	23
Cotinine, ng/l	38	220
1,7- Dimethylvanthine	13	00
ng/l	1.0	77
Caffeine, ng/l	1,700	290
Carbamazepine, ng/l	ND	ND
Metoprolol, ng/l	ND	ND
E.Coli, CFU/100ml	56,000	31,000
Enterococcus, CFU/100ml	48,000	24,000
Fecal Coliform col/100ml)	21,000	34,000

# END OF REPORT

ND: not detected above laboratory reporting limits GPS coordinates estimated from Google Earth Pro.



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION I

DATE: July 10, 2014

SUBJ: City of Providence, Rhode Island

MS4 Compliance Inspection

FROM: Erin Trainor, Inspector

TO: File

REVIEWED BY: Dave Turin (OES) 7/10/14

REQUESTED BY: Ray Cody (OEP)

# I. <u>Background Information</u>

A. Date, Time of inspection: Thursday, June 5, 2014, 9:05 AM

B. Weather Conditions: Overcast and cool with periods of heavy rain, approximately

60 degrees F

C. USEPA Representatives: Erin Trainor (EIA)

Ray Cody (OEP)

D. Site Representative: Edwin Sanchez

City of Providence Parks Department

1000 Elmwood Ave., Providence, RI 02907

(401) 785-9450

E. Address: Various locations within the City of Providence, Rhode

Island Mashapaug Pond MS4 drainage area.

# II. Purpose of Inspection

The purpose of the inspection was to determine the presence or absence of illicit connections or illegal discharges within the City of Providence Municipal Separate Stormwater Sewer System (MS4) that may adversely impact the water quality into an infiltration basin structure best management practice (BMP) which is currently being constructed within JT Owens Park. Samples were collected from two outfalls within a single access manhole in accordance with the Environmental Investigations and Analysis (EIA) unit Stormwater Program Plan.

# III. <u>Description of Sampling Location</u>

- Access manhole located along Niantic Avenue at the intersection with Swanson Street, adjacent to JT Owens Park, identified as "Niantic-E-1". Sample "Niantic-E-1" was collected from the southern outfall pipe.
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The following locations were inspected but not sampled:

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- Access manhole located along Niantic Avenue at the intersection with Tobyhanna Street, identified as "Niantic-E-2". "Niantic-E-2" appeared to collect street runoff from Niantic Avenue as well as flows from "Niantic-W-2" (see below) and direct flow towards "Niantic-E-1".
- Access manhole located along the west side of Niantic Avenue across from the intersection with Tobyhanna Street, identified as "Niatic-W-2". "Niantic-W-2" appeared to collect street runoff from Niantic Avenue as well as flow from "Niantic-W-3" and direct flow towards "Niantic-E-2".
- Access manhole located along the north side of Tobyhanna Street at the intersection with Niantic Avenue, identified as "Tobyhanna-N". "Tobyhanna-N" appeared to collect only street runoff from the north side of Tobyhanna Street and direct flow slightly north of "Niantic-E-2".
- Access manhole located along the south side of Tobyhanna Street at the intersection with Niantic Avenue, identified as "Tobyhanna-S". "Tobyhanna-S" appeared to collect only street runoff from the south side of Tobyhanna Street and direct flow slightly north of "Niantic-E-2".
- Access manhole located along Niantic Avenue at the intersection with Togansett Street,

identified as "Niantic-E-3". "Niantic-E-3" was full of trash/debris at the time of inspection, and flow rate/direction could not be determined. DPW personnel explained the catch basins would be scheduled to be cleaned out.

• Access manhole located along the west side of Niantic Avenue across from the intersection with Togansett Road, identified as "Niantic-W-3". "Niantic-W-3" was full of trash/debris at the time of inspection, and flow rate/direction could not be determined. DPW personnel explained the catch basins would be scheduled to be cleaned out.



# IV. <u>Inspection Observations and Findings</u>

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The inspection started in Providence at approximately 9:05 AM. At the time of the inspection, the weather was overcast and cool, approximately 60 degrees Fahrenheit. According to <a href="https://www.wunderground.com">www.wunderground.com</a>, weather station KRIPROVI8, there was a trace amount of rain recorded on June 4, 2014. Approximately 0.3 inches of rain was recorded on June 5, 2014 prior to collecting a sample. Rainfall from 13:00-14:00 produced enough flow to collect a sample from the Mashapaug Pond drainage area. The recorded total rainfall from this hour is approximately 0.66 inches. The sampling area was not tidally influenced.

The City of Providence is covered under municipal NPDES permit RIR040005.

The sampling locations described in Section III analyzed at Alpha Analytical located in Westborough, Massachusetts for E.Coli, Enterococcus, and Fecal Coliform and Pharmaceutical and Personal Care Products (PPCPs) including: Atenolol, Acetaminophen, Cotinine, 1,7-Dimethylxanthine, Caffeine, Carbamazepine, and Metoprolol at the EPA New England Regional Laboratory (NERL). The following table summarizes the findings.

Summary of Providence, RI Mashapaug Pond MS4 Inspection, June 5, 2014

Sample ID	Niatic-E-1	Swanton-N
Time	13:08	13:38
Latitude/Longitude	41.792235 N, -71.437397 W	41.792235 N, -71.437397 W
Description of Location	Access manhole located along Niantic Avenue at the intersection with Swanson Street, adjacent to JT Owens Park. Sample was collected from the southern outfall pipe within access manhole.	Access manhole located along Niantic Avenue at the intersection with Swanson Street, adjacent to JT Owens Park. Sample was collected from the southeastern outfall pipe within access manhole.
Physical Observations	Manhole cleared of trash and debris prior to sample collection. Cigarette butts observed. Dog mass adjacent to catch basin along fence line of JT Owens Park.	Manhole cleared of trash and debris prior to sample collection. Cigarette butts observed. Dog mass adjacent to catch basin along fence line of JT Owens Park.
Atenolol, ng/l	ND	ND
Acetaminophen, ng/l	21	23
Cotinine, ng/l	38	220
1,7- Dimethylxanthine, ng/l	13	20
Caffeine, ng/l	1,700	290
Carbamazepine, ng/l	ND	ND
Metoprolol, ng/l	ND	ND
E.Coli, CFU/100ml	56,000	31,000
Enterococcus, CFU/100ml	48,000	24,000
Fecal Coliform col/100ml)	21,000	34,000

END OF REPORT

ND: not detected above laboratory reporting limits <sup>1</sup> GPS coordinates estimated from Google Earth Pro.



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION I

DATE: July 10, 2014

SUBJ: City of Providence, Rhode Island

MS4 Compliance Inspection

FROM: Erin Trainor, Inspector

TO: File

REVIEWED BY: Dave Turin (OES) 7/10/14

REQUESTED BY: Ray Cody (OEP)

# I. <u>Background Information</u>

A. Date, Time of inspection: Thursday, June 5, 2014, 9:05 AM

B. Weather Conditions: Overcast and cool with periods of heavy rain, approximately

60 degrees F

C. USEPA Representatives: Erin Trainor (EIA)

Ray Cody (OEP)

D. Site Representative: Edwin Sanchez

City of Providence Parks Department

1000 Elmwood Ave., Providence, RI 02907

(401) 785-9450

E. Address: Various locations within the City of Providence, Rhode

Island Mashapaug Pond MS4 drainage area.

# II. Purpose of Inspection

The purpose of the inspection was to determine the presence or absence of illicit connections or illegal discharges within the City of Providence Municipal Separate Stormwater Sewer System (MS4) that may adversely impact the water quality into an infiltration basin structure best management practice (BMP) which is currently being constructed within JT Owens Park. Samples were collected from two outfalls within a single access manhole in accordance with the Environmental Investigations and Analysis (EIA) unit Stormwater Program Plan.

# III. <u>Description of Sampling Location</u>

- Access manhole located along Niantic Avenue at the intersection with Swanson Street, adjacent to JT Owens Park, identified as "Niantic-E-1". Sample "Niantic-E-1" was collected from the southern outfall pipe.
- Access manhole located along Niantic Avenue at the intersection with Swanson Street, adjacent to JT Owens Park, identified as "Swanton-N". Sample "Swanton-N" was collected from the southeastern outfall pipe and was assumed to represent street runoff from the north side of Swanton Street.

The following locations were inspected but not sampled:

- Access manhole located along the west side of Niantic Avenue across from the intersection with Swanson Street, identified as "Niantic-W-1". Trash/debris was removed from "Niantic-W-1" by the City of Providence Department of Public Works (DPW) at the time of inspection. "Niantic-W-1" appeared to collect only street runoff from Niantic Avenue and direct flow slightly south of "Niantic-E-1".
- Access manhole located along the south side of Swanton Street at the intersection with Niantic Avenue, identified as "Swanton-S". "Swanton-S" appeared to collect only street runoff from the south side of Swanton Street and direct flow slightly south of "Niantic-E-1".
- Access manhole located along Niantic Avenue at the intersection with Tobyhanna Street, identified as "Niantic-E-2". "Niantic-E-2" appeared to collect street runoff from Niantic Avenue as well as flows from "Niantic-W-2" (see below) and direct flow towards "Niantic-E-1".
- Access manhole located along the west side of Niantic Avenue across from the intersection with Tobyhanna Street, identified as "Niatic-W-2". "Niantic-W-2" appeared to collect street runoff from Niantic Avenue as well as flow from "Niantic-W-3" and direct flow towards "Niantic-E-2".
- Access manhole located along the north side of Tobyhanna Street at the intersection with Niantic Avenue, identified as "Tobyhanna-N". "Tobyhanna-N" appeared to collect only street runoff from the north side of Tobyhanna Street and direct flow slightly north of "Niantic-E-2".
- Access manhole located along the south side of Tobyhanna Street at the intersection with Niantic Avenue, identified as "Tobyhanna-S". "Tobyhanna-S" appeared to collect only street runoff from the south side of Tobyhanna Street and direct flow slightly north of "Niantic-E-2".
- Access manhole located along Niantic Avenue at the intersection with Togansett Street,

identified as "Niantic-E-3". "Niantic-E-3" was full of trash/debris at the time of inspection, and flow rate/direction could not be determined. DPW personnel explained the catch basins would be scheduled to be cleaned out.

• Access manhole located along the west side of Niantic Avenue across from the intersection with Togansett Road, identified as "Niantic-W-3". "Niantic-W-3" was full of trash/debris at the time of inspection, and flow rate/direction could not be determined. DPW personnel explained the catch basins would be scheduled to be cleaned out.



# IV. <u>Inspection Observations and Findings</u>

On Thursday, June 5, 2014, EPA inspector Erin Trainor conducted a compliance sampling inspection of the Mashapaug Pond MS4 drainage area within the City of Providence at the locations described in Section III. She was accompanied by Ray Cody (OEP), Edwin Sanchez of the City of Providence Parks and Recreation Department, and D. Morel and Jose de los Santos, both of the City of Providence Department of Public Works.

The inspection started in Providence at approximately 9:05 AM. At the time of the inspection, the weather was overcast and cool, approximately 60 degrees Fahrenheit. According to <a href="https://www.wunderground.com">www.wunderground.com</a>, weather station KRIPROVI8, there was a trace amount of rain recorded on June 4, 2014. Approximately 0.3 inches of rain was recorded on June 5, 2014 prior to collecting a sample. Rainfall from 13:00-14:00 produced enough flow to collect a sample from the Mashapaug Pond drainage area. The recorded total rainfall from this hour is approximately 0.66 inches. The sampling area was not tidally influenced.

The City of Providence is covered under municipal NPDES permit RIR040005.

The sampling locations described in Section III analyzed at Alpha Analytical located in Westborough, Massachusetts for E.Coli, Enterococcus, and Fecal Coliform and Pharmaceutical and Personal Care Products (PPCPs) including: Atenolol, Acetaminophen, Cotinine, 1,7-Dimethylxanthine, Caffeine, Carbamazepine, and Metoprolol at the EPA New England Regional Laboratory (NERL). The following table summarizes the findings.

Summary of Providence, RI Mashapaug Pond MS4 Inspection, June 5, 2014

Sample ID	Niatic-E-1	Swanton-N		
Time	13:08	13:38		
Latitude/Longitude	41.792235 N, -71.437397 W	41.792235 N, -71.437397 W		
Description of Location	Access manhole located along Niantic Avenue at the intersection with Swanson Street, adjacent to JT Owens Park. Sample was collected from the southern outfall pipe within access manhole.	Access manhole located along Niantic Avenue at the intersection with Swanson Street, adjacent to JT Owens Park. Sample was collected from the southeastern outfall pipe within access manhole.		
Physical Observations	Manhole cleared of trash and debris prior to sample collection. Cigarette butts observed. Dog mass adjacent to catch basin along fence line of JT Owens Park.	Manhole cleared of trash and debris prior to sample collection. Cigarette butts observed. Dog mass adjacent to catch basin along fence line of JT Owens Park.		
Atenolol, ng/l	ND	ND		
Acetaminophen, ng/l	21	23		
Cotinine, ng/l	38	220		
1,7- Dimethylxanthine, ng/l	13	20		
Caffeine, ng/l	1,700	290		
Carbamazepine, ng/l	ND	ND		
Metoprolol, ng/l	ND	ND		
E.Coli, CFU/100ml	56,000	31,000		
Enterococcus, CFU/100ml	48,000	24,000		
Fecal Coliform col/100ml)	21,000	34,000		

END OF REPORT

ND: not detected above laboratory reporting limits <sup>1</sup> GPS coordinates estimated from Google Earth Pro.



# United States Environmental Protection Agency Office of Environmental Measurement & Evaluation 11 Technology Drive North Chelmsford, MA 01863-2431

Laboratory Report

February 26, 2014

Erin Trainor - EIA / OEME US EPA New England R1

Project Number: 14020019 Project: Providence RI, MS4

Analysis: HPLC/MS/MS Source Tracking Analysis

EPA Chemist: Peter Philbrook

Date Samples Received by the Laboratory: 02/21/2014

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, EIA-LCMS\_STA.1.

The SOP is based on an EPA Regional Analytical Method developed at the EPA New England Laboratory.

Data were reviewed in accordance with the internal verification procedures described in the EPA New England Quality Manual for NERL.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

If you have any questions please call me at 617-918-8340.

Sincerely,

# Qualifiers:

- **RL** Reporting limit
- **ND** Not Detected above reporting limit
- **B** Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 3X the concentration in the blank.

# Providence RI, MS4

# **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID: Niantic-1 Lab Sample ID: AB46483 2/21/2014 Date of Collection: Water Matrix: Date of Preparation: 2/24/2014 Volume Extracted (mL): 500 Date of Analysis: 2/25/2014 **Extract Dilution:** 1

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Cotinine	33	0.40	
103-90-2	Acetaminophen	10	2.0	
486-56-6	Atenolol	3.2	2.0	
611-59-6	1,7-Dimethylxanthine	12	2.0	
58-08-2	Caffeine	120	4.0	
298-46-4	Metoprolol	ND	2.0	
56392-17-7	Carbamazepine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	42	54 - 110
Sulfamethazine 13C6	80	20 - 124

### **Comments:**

# Providence RI, MS4

# **Laboratory Blank**

Client Sample ID: N/A Lab Sample ID: N/ADate of Collection: N/A Matrix: Water Date of Preparation: 2/24/2014 Volume Extracted (mL): 500 Date of Analysis: 2/25/2014 **Extract Dilution:** 1

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Cotinine	ND	0.40	
103-90-2	Acetaminophen	ND	2.0	
486-56-6	Atenolol	ND	2.0	
611-59-6	1,7-Dimethylxanthine	ND	2.0	
58-08-2	Caffeine	ND	4.0	
298-46-4	Metoprolol	ND	2.0	
56392-17-7	Carbamazepine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	89	54 - 110
Sulfamethazine 13C6	65	20 - 124

# Providence RI, MS4

# MATRIX SPIKE (MS) RECOVERY

Sample ID: AB46483

PARAMETER	SPIKE ADDED ng/L	SAMPLE CONCENTRATION ng/L	MS CONCENTRATION ng/L	MS % REC	QC LIMITS (% REC)
1,7-Dimethylxanthine	120.0	12	148	113	13 - 174
Acetaminophen	120.0	10	88.4	65	23 - 138
Atenolol	120.0	3.2	122	99	49 - 137
Caffeine	240.0	120	372	105	31 - 156
Carbamazepine	24.0	ND	20.3	85	47 - 143
Cotinine	24.0	33	48.0	63	46 - 121
Metoprolol	120.0	ND	140	117	60 - 140

# Providence RI, MS4

# **Laboratory Duplicate Results**

Sample ID: AB46483

PARAMETER	SAMPLE RESULT ng/L	SAMPLE DUPLICATE RESULT ng/L	PRECISION RPD %	QC LIMITS
1,7-Dimethylxanthine	12	13	8.00	50
Acetaminophen	10	8.6	15.1	50
Atenolol	3.2	2.6	20.7	50
Caffeine	120	150	22.2	50
Carbamazepine	ND	ND	ND	50
Cotinine	33	35	5.88	50
Metoprolol	ND	ND	ND	50

# Providence RI, MS4

# Laboratory Fortified Blank (LFB) Results

PARAMETER	LFB AMOUNT SPIKED ng/L	LFB RESULT ng/L	LFB RECOVERY %	QC LIMITS %
1,7-Dimethylxanthine	120	115	96	64 - 135
Acetaminophen	120	93.1	78	48 - 122
Atenolol	120	101	84	52 - 128
Caffeine	240	222	93	68 - 126
Carbamazepine	24	23.9	100	65 - 121
Cotinine	24	24.0	100	60 - 120
Metoprolol	120	117	98	60 - 140

**Comments:** 

**Samples in Batch:** AB46483

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# United States Environmental Protection Agency Office of Environmental Measurement & Evaluation 11 Technology Drive North Chelmsford, MA 01863-2431

Laboratory Report

February 26, 2014

Erin Trainor - EIA / OEME US EPA New England R1

Project Number: 14020019 Project: Providence RI, MS4

Analysis: HPLC/MS/MS Source Tracking Analysis

EPA Chemist: Peter Philbrook

Date Samples Received by the Laboratory: 02/21/2014

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, EIA-LCMS\_STA.1.

The SOP is based on an EPA Regional Analytical Method developed at the EPA New England Laboratory.

Data were reviewed in accordance with the internal verification procedures described in the EPA New England Quality Manual for NERL.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

If you have any questions please call me at 617-918-8340.

Sincerely,

# Qualifiers:

- **RL** Reporting limit
- **ND** Not Detected above reporting limit
- **B** Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 3X the concentration in the blank.

# Providence RI, MS4

# **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID: Niantic-1 Lab Sample ID: AB46483 2/21/2014 Date of Collection: Water Matrix: Date of Preparation: 2/24/2014 Volume Extracted (mL): 500 Date of Analysis: 2/25/2014 **Extract Dilution:** 1

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Cotinine	33	0.40	
103-90-2	Acetaminophen	10	2.0	
486-56-6	Atenolol	3.2	2.0	
611-59-6	1,7-Dimethylxanthine	12	2.0	
58-08-2	Caffeine	120	4.0	
298-46-4	Metoprolol	ND	2.0	
56392-17-7	Carbamazepine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	42	54 - 110
Sulfamethazine 13C6	80	20 - 124

# Providence RI, MS4

# **Laboratory Blank**

Client Sample ID: N/A Lab Sample ID: N/ADate of Collection: N/A Matrix: Water Date of Preparation: 2/24/2014 Volume Extracted (mL): 500 Date of Analysis: 2/25/2014 **Extract Dilution:** 1

CAS Number	Compound	Concentration ng/L	RL ng/L	Qualifier
29122-68-7	Cotinine	ND	0.40	
103-90-2	Acetaminophen	ND	2.0	
486-56-6	Atenolol	ND	2.0	
611-59-6	1,7-Dimethylxanthine	ND	2.0	
58-08-2	Caffeine	ND	4.0	
298-46-4	Metoprolol	ND	2.0	
56392-17-7	Carbamazepine	ND	0.4	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	89	54 - 110
Sulfamethazine 13C6	65	20 - 124

# Providence RI, MS4

# MATRIX SPIKE (MS) RECOVERY

Sample ID: AB46483

PARAMETER	SPIKE ADDED ng/L	SAMPLE CONCENTRATION ng/L	MS CONCENTRATION ng/L	MS % REC	QC LIMITS (% REC)
1,7-Dimethylxanthine	120.0	12	148	113	13 - 174
Acetaminophen	120.0	10	88.4	65	23 - 138
Atenolol	120.0	3.2	122	99	49 - 137
Caffeine	240.0	120	372	105	31 - 156
Carbamazepine	24.0	ND	20.3	85	47 - 143
Cotinine	24.0	33	48.0	63	46 - 121
Metoprolol	120.0	ND	140	117	60 - 140

# Providence RI, MS4

# **Laboratory Duplicate Results**

Sample ID: AB46483

PARAMETER	SAMPLE RESULT ng/L	SAMPLE DUPLICATE RESULT ng/L	PRECISION RPD %	QC LIMITS
1,7-Dimethylxanthine	12	13	8.00	50
Acetaminophen	10	8.6	15.1	50
Atenolol	3.2	2.6	20.7	50
Caffeine	120	150	22.2	50
Carbamazepine	ND	ND	ND	50
Cotinine	33	35	5.88	50
Metoprolol	ND	ND	ND	50

# Providence RI, MS4

# Laboratory Fortified Blank (LFB) Results

PARAMETER	LFB AMOUNT SPIKED ng/L	LFB RESULT ng/L	LFB RECOVERY %	QC LIMITS %
1,7-Dimethylxanthine	120	115	96	64 - 135
Acetaminophen	120	93.1	78	48 - 122
Atenolol	120	101	84	52 - 128
Caffeine	240	222	93	68 - 126
Carbamazepine	24	23.9	100	65 - 121
Cotinine	24	24.0	100	60 - 120
Metoprolol	120	117	98	60 - 140

**Comments:** 

**Samples in Batch:** AB46483

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## ANALYTICAL REPORT

Lab Number: L1403844

Client: U.S. EPA

N.E. Regional Lab-Office of Env. Meas.

11 Technology Drive

North Chelmsford, MA 01863-2431

ATTN: Vicki Maynard Phone: (617) 918-8614

Project Name: PROVIDENCE-MASHPAUG POND

Project Number: Not Specified Report Date: 02/25/14

Digitally signed by Dan Boudreau DN: cn=Dan Boudreau, o=EPA, ou=EIA, email=boudreau.dan@epa.g ov, c=US Date: 2014.02.25 15:34:33 -05'00'

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** PROVIDENCE-MASHPAUG POND Lab Number: L1403844

**Project Number:** Not Specified Report Date: 02/25/14

Sample Location Alpha Sample ID Collection Date/Time **Client ID** 

Not Specified 02/21/14 10:00 L1403844-01 **NIANTIC-1** 



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Cypellia fin Che Cynthia McQueen

Authorized Signature:

Title: Technical Director/Representative

ALPHA

Date: 02/25/14

# INORGANICS & MISCELLANEOUS



Project Name: PROVIDENCE-MASHPAUG POND Lab Number: L1403844

Project Number: Not Specified Report Date: 02/25/14

**SAMPLE RESULTS** 

Lab ID: L1403844-01 Date Collected: 02/21/14 10:00

Client ID: NIANTIC-1 Date Received: 02/21/14
Sample Location: Not Specified Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	- Westborough	h Lab							
Coliform, Fecal (MF)	96	col/100ml	2.0	NA	2	-	02/21/14 17:30	30,9222D	SE
E. Coli (MPN)	44	MPN/100ml	1.0	NA	1	-	02/21/14 16:25	30,9223B	SE
ENTEROCOCCUS	80	MPN/100ml	1.0	NA	1	-	02/21/14 16:30	102,ENTEROLER	SE



**Project Name:** PROVIDENCE-MASHPAUG POND **Lab Number:** L1403844

Project Number: Not Specified Report Date: 02/25/14

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	r Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	- Westborough Lab f	for sample(s):	01	Batch:	WG671663-1				
E. Coli (MPN)	<1	MPN/100ml	1	NA	1	-	02/21/14 16:25	30,9223B	SE
Microbiological Analysis	- Westborough Lab f	for sample(s):	01	Batch:	WG671664-1				
ENTEROCOCCUS	<1	MPN/100ml	1	NA	1	-	02/21/14 16:30	102,ENTEROLE	R SE
Microbiological Analysis	- Westborough Lab f	for sample(s):	01	Batch:	WG671665-1			·	
Coliform, Fecal (MF)	ND	col/100ml	1.0	NA	1	-	02/21/14 17:30	30,9222D	SE



Lab Number: L1403844

Project Name: PROVIDENCE-MASHPAUG POND

Project Number: Not Specified Report Date: 02/25/14

**Sample Receipt and Container Information** 

YES

Sample Receipt and Container information

Reagent H2O Preserved Vials Frozen on: NA

Were project specific reporting limits specified?

**Cooler Information Custody Seal** 

Cooler

A Absent

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1403844-01A	Bacteria Cup unpreserved	Α	N/A	4.6	Υ	Absent	F-COLI-MF(.33)
L1403844-01B	Bacteria Cup unpreserved	Α	N/A	4.6	Υ	Absent	E-COLI-QT(.25)
L1403844-01C	Bacteria Cup unpreserved	Α	N/A	4.6	Υ	Absent	ENTRO-QT(.25)



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **GLOSSARY**

#### **Acronyms**

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

#### Footnotes

SRM

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### Terms

1

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

#### Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
  of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.

Report Format: Data Usability Report



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **Data Qualifiers**

- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- $\boldsymbol{R}$  Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **REFERENCES**

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

Standard Test Method for Enterococci in Water Using Enterolert (IDEXX Defined Substrate Technology), Amercian Society of Testing & Materials, ASTM D6503-99.

#### LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



#### **Certification Information**

Last revised December 11, 2013

#### The following analytes are not included in our NELAP Scope of Accreditation:

#### Westborough Facility

**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

**EPA 8270D:** 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

#### **Mansfield Facility**

EPA 8270D: Biphenyl.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

### The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

#### **Drinking Water**

**EPA 200.8**: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

**EPA 332**: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

#### Non-Potable Water

**EPA 200.8**: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics.

**EPA 608**: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endesylfen L. Endesylfen auffate. Endesylfen Aldebyde, Hentaehler Energia. BCRs.

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ENVIRONMENTAL PROTECTION AGENCY

REGION 1

CHAIN OF CUSTODY RECORD

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# United States Environmental Protection Agency Office of Environmental Measurement & Evaluation 11 Technology Drive North Chelmsford, MA 01863-2431

# Laboratory Report

June 17, 2014

Erin Trainor - EIA / OEME US EPA New England R1

Project Number: 14060008

Project: MS4 Mashpaug Pond - Providence, RI Analysis: HPLC/MS/MS Source Tracking Analysis

EPA Chemist: Peter Philbrook

Date Samples Received by the Laboratory: 06/05/2014

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, EIA-LCMS\_STA.1.

The SOP is based on an EPA Regional Analytical Method developed at the EPA New England Laboratory.

Data were reviewed in accordance with the internal verification procedures described in the EPA New England Quality Manual for NERL.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

If you have any questions please call me at 617-918-8340.

Sincerely,

Digitally signed by Dan Boudreau DN: cn=Dan Boudreau, o=EPA, ou=EIA, email=boudreau.dan@epa.gov, c=US

Date: 2014.06.17 11:23:31 -04'00'

14060008\$STA

# Qualifiers

RL	Reporting	limit
	reporting	111111

**ND** Not Detected above reporting limit

NA Not Applicable

NC Not calculated since analyte concentration is ND

J1 Estimated value due to MS recovery outside acceptance criteria
 J2 Estimated value due to LFB result outside acceptance criteria
 J3 Estimated value due to RPD result outside acceptance criteria

J4 Estimated value due to LCS result outside acceptance criteria

**B** Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 3 times the concentration in the blank.

**R** No recovery was calculated since the analyte concentration is greater than four times the spike level.

# MS4 Mashpaug Pond - Providence, RI

# **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID: Niamtic-E-1 Lab Sample ID: AB48755

Date of Collection: 6/05/2014 Matrix: Water

Date of Preparation: 6/09/2014 Amount Prepared: 350 mL

Date of Analysis: 6/10/2014

		Concentration		$\mathbf{RL}$	
CAS Number	Compound	ng/L	Dilution	ng/L	Qualifier
486-56-6	Cotinine	38	1	0.56	
103-90-2	Acetaminophen	21	1	2.8	
29122-68-7	Atenolol	ND	1	2.8	
611-59-6	1,7-Dimethylxanthine	13	1	2.8	
58-08-2	Caffeine	1700	5	28	
56392-17-7	Metoprolol	ND	1	2.8	
298-46-4	Carbamazepine	ND	1	0.56	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	75	33 - 157
Sulfamethazine 13C6	53	39 - 138

# MS4 Mashpaug Pond - Providence, RI

# HPLC/MS/MS Source Tracking Analysis

Client Sample ID: Swanton-N Lab Sample ID: AB48756

Date of Collection: 6/05/2014 Matrix: Water

Date of Preparation: 6/09/2014 Amount Prepared: 400 mL

Date of Analysis: 6/10/2014

		Concentration		$\mathbf{RL}$	
CAS Number	Compound	ng/L	Dilution	ng/L	Qualifier
486-56-6	Cotinine	220	2	1.0	
103-90-2	Acetaminophen	23	2	5.0	
29122-68-7	Atenolol	ND	2	5.0	
611-59-6	1,7-Dimethylxanthine	20	2	5.0	
58-08-2	Caffeine	290	2	10	
56392-17-7	Metoprolol	ND	2	5.0	
298-46-4	Carbamazepine	ND	2	1.0	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	104	33 - 157
Sulfamethazine 13C6	113	39 - 138

# MS4 Mashpaug Pond - Providence, RI

# **Laboratory Blank**

Client Sample ID: N/A

Date of Collection: N/A

Date of Preparation: 6/09/2014

Lab Sample ID: N/A

Matrix: Water

Amount Prepared: 500 mL

Date of Analysis: 6/10/2014

		Concentration		$\mathbf{RL}$	
CAS Number	Compound	ng/L	Dilution	ng/L	Qualifier
29122-68-7	Cotinine	ND	1	0.40	
103-90-2	Acetaminophen	ND	1	2.0	
486-56-6	Atenolol	ND	1	2.0	
611-59-6	1,7-Dimethylxanthine	ND	1	2.0	
58-08-2	Caffeine	ND	1	4.0	
298-46-4	Metoprolol	ND	1	2.0	
56392-17-7	Carbamazepine	ND	1	0.40	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	93	33 - 157
Sulfamethazine 13C6	81	39 - 138

# MS4 Mashpaug Pond - Providence, RI

# **Matrix Spike Recovery**

MS4 Mashpaug Pond - Providence, RI Sample ID: AB48756

PARAMETER	SPIKE ADDED ng/L	SAMPLE CONCENTRATION ng/L	MS CONCENTRATION ng/L	MS % REC	QC LIMITS (% REC)
1,7-Dimethylxanthine	150.0	20	110	60	13 - 174
Acetaminophen	150.0	23	175	101	23 - 138
Atenolol	150.0	ND	188	125	49 - 137
Caffeine	300.0	290	577	96	31 - 156
Carbamazepine	30.0	ND	33.2	111	47 - 143
Cotinine	30.0	220	240	67	46 - 121
Metoprolol	150.0	ND	168	112	60 - 140
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# MS4 Mashpaug Pond - Providence, RI

# **Laboratory Duplicate Results**

Sample ID: AB48755

PARAMETER	SAMPLE RESULT ng/L	SAMPLE DUPLICATE RESULT ng/L	PRECISION RPD %	QC LIMITS
155: 11	10	4.4	5.44	<b>~</b> 0
1,7-Dimethylxanthine	13	14	7.41	50
Acetaminophen	21	20	4.88	50
Atenolol	ND	ND	ND	50
Caffeine	1700	1700	0.00	50
Carbamazepine	ND	ND	ND	50
Cotinine	38	36	5.41	50
Metoprolol	ND	ND	ND	50

# MS4 Mashpaug Pond - Providence, RI

# Laboratory Fortified Blank (LFB) Results

PARAMETER	LFB AMOUNT SPIKED ng/L	LFB RESULT ng/L	LFB RECOVERY %	QC LIMITS %
1,7-Dimethylxanthine	600	478	80	64 - 135
Acetaminophen	600	542	90	48 - 122
Atenolol	600	422	70	52 - 128
Caffeine	1200	1124	94	68 - 126
Carbamazepine	120	102	85	65 - 121
Cotinine	120	117	98	60 - 120
Metoprolol	600	578	96	60 - 140

**Comments:** 

Samples in Batch: AB48755, AB48756



# ENVIRONMENTAL PROTECTION AGENCY

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#### ANALYTICAL REPORT

Lab Number: L1412197

Client: U.S. EPA

N.E. Regional Lab-Office of Env. Meas.

11 Technology Drive

North Chelmsford, MA 01863-2431

ATTN: Dan Boudreau Phone: (617) 918-8340

Project Name: PROVIDENCE, RI-MASHPAUG POND

Project Number: Not Specified Report Date: 06/09/14

Digitally signed by Dan Boudreau DN: cn=Dan Boudreau, o=EPA, ou=EIA, email=boudreau.dan@epa.gov, c=US

Date: 2014.06.16 09:08:01 -04'00'

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** PROVIDENCE, RI-MASHPAUG POND **Lab Number:** L1412197

**Project Number:** Not Specified **Report Date:** 06/09/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time		
L1412197-01	NIANTIC-E-1	Not Specified	06/05/14 13:08		
L1412197-02	SWANTON-N	Not Specified	06/05/14 13:38		



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions	Please o	contact	Client	Services	at 800	-624-9220	with	any o	questions
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I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

King l. Wister Lisa Westerlind

Authorized Signature:

Title: Technical Director/Representative

Date: 06/09/14



# INORGANICS & MISCELLANEOUS



Project Name: PROVIDENCE, RI-MASHPAUG POND Lab Number: L1412197

Project Number: Not Specified Report Date: 06/09/14

**SAMPLE RESULTS** 

Lab ID: Date Collected: 06/05/14 13:08

Client ID: NIANTIC-E-1 Date Received: 06/05/14
Sample Location: Not Specified Field Prep: Not Specified

Matrix: Water

Parameter		ualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	s - vvestborougn L	_ab							
Coliform, Fecal (MF)	21000	col/100ml	1000	NA	1000	-	06/05/14 17:35	30,9222D	SE
E. Coli (MPN)	56000	MPN/100ml	500	NA	500	-	06/05/14 16:10	30,9223B	SE
ENTEROCOCCUS	48000	MPN/100ml	500	NA	500	-	06/05/14 17:10	102,ENTEROLER	R SE



Project Name: PROVIDENCE, RI-MASHPAUG POND Lab Number: L1412197

Project Number: Not Specified Report Date: 06/09/14

**SAMPLE RESULTS** 

Lab ID: Date Collected: 06/05/14 13:38

Client ID: SWANTON-N Date Received: 06/05/14 Sample Location: Not Specified Field Prep: Not Specified

Matrix: Water

Parameter		ualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	s - vvestborougn L	.ab							
Coliform, Fecal (MF)	34000	col/100ml	1000	NA	1000	-	06/05/14 17:35	30,9222D	SE
E. Coli (MPN)	31000	MPN/100ml	500	NA	500	-	06/05/14 16:10	30,9223B	SE
ENTEROCOCCUS	24000	MPN/100ml	10	NA	10	-	06/05/14 17:10	102,ENTEROLER	R SE



06/05/14 17:35

30,9222D

SE

L1412197

Project Name: PROVIDENCE, RI-MASHPAUG POND Lab Number:

col/100ml

Project Number: Not Specified Report Date: 06/09/14

Method Blank Analysis Batch Quality Control

Parameter	Result Qualific	er Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	- Westborough Lab	for sample(	s): 01-02	Batch:	WG695493	3-1			
E. Coli (MPN)	<1	MPN/100n	nl 1	NA	1	-	06/05/14 16:10	30,9223B	SE
Microbiological Analysis	- Westborough Lab	for sample(	s): 01-02	Batch:	WG695496	6-1			
ENTEROCOCCUS	<1	MPN/100n	nl 1	NA	1	-	06/05/14 17:10	102,ENTEROLE	R SE
Microbiological Analysis	- Westborough Lab	for sample(	s): 01-02	Batch:	WG695498	3-1		'	

NA

1

1.0



Coliform, Fecal (MF)

ND

**Project Name:** PROVIDENCE, RI-MASHPAUG POND

Lab Number: L1412197 Project Number: Not Specified **Report Date:** 06/09/14

#### Sample Receipt and Container Information

YES Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

**Cooler Information Custody Seal** 

Cooler

Α Absent

Container Info	rmation		Temp				
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1412197-01A	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	E-COLI-QT(.25)
L1412197-01B	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	ENTRO-QT(.25)
L1412197-01C	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	F-COLI-MF(.33)
L1412197-02A	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	E-COLI-QT(.25)
L1412197-02B	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	ENTRO-QT(.25)
L1412197-02C	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	F-COLI-MF(.33)



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **GLOSSARY**

#### **Acronyms**

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

#### Footnotes

- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method

#### Terms

1

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

#### **Data Qualifiers**

- A Spectra identified as "Aldol Condensation Product".
- B The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
  of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

Report Format: Data Usability Report



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **Data Qualifiers**

- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- ${f P}$  The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **REFERENCES**

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

Standard Test Method for Enterococci in Water Using Enterolert (IDEXX Defined Substrate Technology), Amercian Society of Testing & Materials, ASTM D6503-99.

#### LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



#### **Certification Information**

Last revised April 15, 2014

#### The following analytes are not included in our NELAP Scope of Accreditation:

#### Westborough Facility

**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, lodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

**EPA 8270D:** 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

#### **Mansfield Facility**

EPA 8270D: Biphenyl. EPA 2540D: TSS

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene,

Benzothiophene, 1-Methylnaphthalene.

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

#### **Drinking Water**

**EPA 200.8**: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F; Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

#### Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mq,Mn,Mo,Ni,K,Se,Aq,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

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Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

1-19207



#### ANALYTICAL REPORT

Lab Number: L1403844

Client: U.S. EPA

N.E. Regional Lab-Office of Env. Meas.

11 Technology Drive

North Chelmsford, MA 01863-2431

ATTN: Vicki Maynard Phone: (617) 918-8614

Project Name: PROVIDENCE-MASHPAUG POND

Project Number: Not Specified Report Date: 02/25/14

Digitally signed by Dan Boudreau DN: cn=Dan Boudreau, o=EPA, ou=EIA, email=boudreau.dan@epa.g ov, c=US Date: 2014.02.25 15:34:33 -05'00'

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** PROVIDENCE-MASHPAUG POND Lab Number: L1403844

**Project Number:** Not Specified Report Date: 02/25/14

Sample Location Alpha Sample ID Collection Date/Time **Client ID** 

Not Specified 02/21/14 10:00 L1403844-01 **NIANTIC-1** 



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Cypellia fin Che Cynthia McQueen

Authorized Signature:

Title: Technical Director/Representative

ALPHA

Date: 02/25/14

# INORGANICS & MISCELLANEOUS



Project Name: PROVIDENCE-MASHPAUG POND Lab Number: L1403844

Project Number: Not Specified Report Date: 02/25/14

**SAMPLE RESULTS** 

Lab ID: L1403844-01 Date Collected: 02/21/14 10:00

Client ID: NIANTIC-1 Date Received: 02/21/14
Sample Location: Not Specified Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	- Westborough	h Lab							
Coliform, Fecal (MF)	96	col/100ml	2.0	NA	2	-	02/21/14 17:30	30,9222D	SE
E. Coli (MPN)	44	MPN/100ml	1.0	NA	1	-	02/21/14 16:25	30,9223B	SE
ENTEROCOCCUS	80	MPN/100ml	1.0	NA	1	-	02/21/14 16:30	102,ENTEROLER	SE



**Project Name:** PROVIDENCE-MASHPAUG POND **Lab Number:** L1403844

Project Number: Not Specified Report Date: 02/25/14

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	r Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	- Westborough Lab f	for sample(s):	01	Batch:	WG671663-1				
E. Coli (MPN)	<1	MPN/100ml	1	NA	1	-	02/21/14 16:25	30,9223B	SE
Microbiological Analysis	- Westborough Lab f	for sample(s):	01	Batch:	WG671664-1				
ENTEROCOCCUS	<1	MPN/100ml	1	NA	1	-	02/21/14 16:30	102,ENTEROLE	R SE
Microbiological Analysis	- Westborough Lab f	for sample(s):	01	Batch:	WG671665-1			·	
Coliform, Fecal (MF)	ND	col/100ml	1.0	NA	1	-	02/21/14 17:30	30,9222D	SE



Lab Number: L1403844

Project Name: PROVIDENCE-MASHPAUG POND

Project Number: Not Specified Report Date: 02/25/14

**Sample Receipt and Container Information** 

YES

Sample Receipt and Container information

Reagent H2O Preserved Vials Frozen on: NA

Were project specific reporting limits specified?

**Cooler Information Custody Seal** 

Cooler

A Absent

Container Info	ormation	Temp					
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1403844-01A	Bacteria Cup unpreserved	Α	N/A	4.6	Υ	Absent	F-COLI-MF(.33)
L1403844-01B	Bacteria Cup unpreserved	Α	N/A	4.6	Υ	Absent	E-COLI-QT(.25)
L1403844-01C	Bacteria Cup unpreserved	Α	N/A	4.6	Υ	Absent	ENTRO-QT(.25)



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **GLOSSARY**

#### **Acronyms**

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

#### Footnotes

SRM

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### Terms

1

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

#### Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
  of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.

Report Format: Data Usability Report



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **Data Qualifiers**

- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- $\boldsymbol{R}$  Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **REFERENCES**

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

Standard Test Method for Enterococci in Water Using Enterolert (IDEXX Defined Substrate Technology), Amercian Society of Testing & Materials, ASTM D6503-99.

#### LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



#### **Certification Information**

Last revised December 11, 2013

#### The following analytes are not included in our NELAP Scope of Accreditation:

#### Westborough Facility

**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

**EPA 8270D:** 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

#### **Mansfield Facility**

EPA 8270D: Biphenyl.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

#### **Drinking Water**

**EPA 200.8**: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

**EPA 332**: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

#### Non-Potable Water

**EPA 200.8**: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ENVIRONMENTAL PROTECTION AGENCY

REGION 1

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# United States Environmental Protection Agency Office of Environmental Measurement & Evaluation 11 Technology Drive North Chelmsford, MA 01863-2431

#### Laboratory Report

June 17, 2014

Erin Trainor - EIA / OEME US EPA New England R1

Project Number: 14060008

Project: MS4 Mashpaug Pond - Providence, RI Analysis: HPLC/MS/MS Source Tracking Analysis

EPA Chemist: Peter Philbrook

Date Samples Received by the Laboratory: 06/05/2014

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, EIA-LCMS\_STA.1.

The SOP is based on an EPA Regional Analytical Method developed at the EPA New England Laboratory.

Data were reviewed in accordance with the internal verification procedures described in the EPA New England Quality Manual for NERL.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

If you have any questions please call me at 617-918-8340.

Sincerely,

Digitally signed by Dan Boudreau DN: cn=Dan Boudreau, o=EPA, ou=EIA, email=boudreau.dan@epa.gov, c=US

Date: 2014.06.17 11:23:31 -04'00'

14060008\$STA

#### Qualifiers

RL	Reporting	limit
	reporting	111111

**ND** Not Detected above reporting limit

NA Not Applicable

NC Not calculated since analyte concentration is ND

J1 Estimated value due to MS recovery outside acceptance criteria
 J2 Estimated value due to LFB result outside acceptance criteria

J3 Estimated value due to RPD result outside acceptance criteria
 J4 Estimated value due to LCS result outside acceptance criteria

**B** Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 3 times the concentration in the blank.

**R** No recovery was calculated since the analyte concentration is greater than four times the spike level.

#### MS4 Mashpaug Pond - Providence, RI

#### **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID: Niamtic-E-1 Lab Sample ID: AB48755

Date of Collection: 6/05/2014 Matrix: Water

Date of Preparation: 6/09/2014 Amount Prepared: 350 mL

Date of Analysis: 6/10/2014

		Concentration		$\mathbf{RL}$	
CAS Number	Compound	ng/L	Dilution	ng/L	Qualifier
486-56-6	Cotinine	38	1	0.56	
103-90-2	Acetaminophen	21	1	2.8	
29122-68-7	Atenolol	ND	1	2.8	
611-59-6	1,7-Dimethylxanthine	13	1	2.8	
58-08-2	Caffeine	1700	5	28	
56392-17-7	Metoprolol	ND	1	2.8	
298-46-4	Carbamazepine	ND	1	0.56	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	75	33 - 157
Sulfamethazine 13C6	53	39 - 138

#### MS4 Mashpaug Pond - Providence, RI

#### HPLC/MS/MS Source Tracking Analysis

Client Sample ID: Swanton-N Lab Sample ID: AB48756

Date of Collection: 6/05/2014 Matrix: Water

Date of Preparation: 6/09/2014 Amount Prepared: 400 mL

Date of Analysis: 6/10/2014

		Concentration		$\mathbf{RL}$	
CAS Number	Compound	ng/L	Dilution	ng/L	Qualifier
486-56-6	Cotinine	220	2	1.0	
103-90-2	Acetaminophen	23	2	5.0	
29122-68-7	Atenolol	ND	2	5.0	
611-59-6	1,7-Dimethylxanthine	20	2	5.0	
58-08-2	Caffeine	290	2	10	
56392-17-7	Metoprolol	ND	2	5.0	
298-46-4	Carbamazepine	ND	2	1.0	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	104	33 - 157
Sulfamethazine 13C6	113	39 - 138

#### MS4 Mashpaug Pond - Providence, RI

#### **Laboratory Blank**

Client Sample ID: N/A

Date of Collection: N/A

Date of Preparation: 6/09/2014

Lab Sample ID: N/A

Matrix: Water

Amount Prepared: 500 mL

Date of Analysis: 6/10/2014

		Concentration		$\mathbf{RL}$	
CAS Number	Compound	ng/L	Dilution	ng/L	Qualifier
29122-68-7	Cotinine	ND	1	0.40	
103-90-2	Acetaminophen	ND	1	2.0	
486-56-6	Atenolol	ND	1	2.0	
611-59-6	1,7-Dimethylxanthine	ND	1	2.0	
58-08-2	Caffeine	ND	1	4.0	
298-46-4	Metoprolol	ND	1	2.0	
56392-17-7	Carbamazepine	ND	1	0.40	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	93	33 - 157
Sulfamethazine 13C6	81	39 - 138

#### MS4 Mashpaug Pond - Providence, RI

#### **Matrix Spike Recovery**

MS4 Mashpaug Pond - Providence, RI Sample ID: AB48756

PARAMETER	SPIKE ADDED ng/L	SAMPLE CONCENTRATION ng/L	MS CONCENTRATION ng/L	MS % REC	QC LIMITS (% REC)
1,7-Dimethylxanthine	150.0	20	110	60	13 - 174
Acetaminophen	150.0	23	175	101	23 - 138
Atenolol	150.0	ND	188	125	49 - 137
Caffeine	300.0	290	577	96	31 - 156
Carbamazepine	30.0	ND	33.2	111	47 - 143
Cotinine	30.0	220	240	67	46 - 121
Metoprolol	150.0	ND	168	112	60 - 140
<del>-</del>					

#### MS4 Mashpaug Pond - Providence, RI

#### **Laboratory Duplicate Results**

Sample ID: AB48755

PARAMETER	SAMPLE RESULT ng/L	SAMPLE DUPLICATE RESULT ng/L	PRECISION RPD %	QC LIMITS
155: 11	10	4.4	5.44	<b>~</b> 0
1,7-Dimethylxanthine	13	14	7.41	50
Acetaminophen	21	20	4.88	50
Atenolol	ND	ND	ND	50
Caffeine	1700	1700	0.00	50
Carbamazepine	ND	ND	ND	50
Cotinine	38	36	5.41	50
Metoprolol	ND	ND	ND	50

#### MS4 Mashpaug Pond - Providence, RI

#### Laboratory Fortified Blank (LFB) Results

PARAMETER	LFB AMOUNT SPIKED ng/L	LFB RESULT ng/L	LFB RECOVERY %	QC LIMITS %
1,7-Dimethylxanthine	600	478	80	64 - 135
Acetaminophen	600	542	90	48 - 122
Atenolol	600	422	70	52 - 128
Caffeine	1200	1124	94	68 - 126
Carbamazepine	120	102	85	65 - 121
Cotinine	120	117	98	60 - 120
Metoprolol	600	578	96	60 - 140

**Comments:** 

Samples in Batch: AB48755, AB48756



# ENVIRONMENTAL PROTECTION AGENCY

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#### ANALYTICAL REPORT

Lab Number: L1412197

Client: U.S. EPA

N.E. Regional Lab-Office of Env. Meas.

11 Technology Drive

North Chelmsford, MA 01863-2431

ATTN: Dan Boudreau Phone: (617) 918-8340

Project Name: PROVIDENCE, RI-MASHPAUG POND

Project Number: Not Specified Report Date: 06/09/14

Digitally signed by Dan Boudreau DN: cn=Dan Boudreau, o=EPA, ou=EIA, email=boudreau.dan@epa.gov, c=US

Date: 2014.06.16 09:08:01 -04'00'

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** PROVIDENCE, RI-MASHPAUG POND **Lab Number:** L1412197

**Project Number:** Not Specified **Report Date:** 06/09/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1412197-01	NIANTIC-E-1	Not Specified	06/05/14 13:08
L1412197-02	SWANTON-N	Not Specified	06/05/14 13:38



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions	Please o	contact	Client	Services	at 800	-624-9220	with	any o	questions
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I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

King l. Wister Lisa Westerlind

Authorized Signature:

Title: Technical Director/Representative

Date: 06/09/14



# INORGANICS & MISCELLANEOUS



Project Name: PROVIDENCE, RI-MASHPAUG POND Lab Number: L1412197

Project Number: Not Specified Report Date: 06/09/14

**SAMPLE RESULTS** 

Lab ID: Date Collected: 06/05/14 13:08

Client ID: NIANTIC-E-1 Date Received: 06/05/14
Sample Location: Not Specified Field Prep: Not Specified

Matrix: Water

Parameter		ualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	s - vvestborougn L	_ab							
Coliform, Fecal (MF)	21000	col/100ml	1000	NA	1000	-	06/05/14 17:35	30,9222D	SE
E. Coli (MPN)	56000	MPN/100ml	500	NA	500	-	06/05/14 16:10	30,9223B	SE
ENTEROCOCCUS	48000	MPN/100ml	500	NA	500	-	06/05/14 17:10	102,ENTEROLER	R SE



Project Name: PROVIDENCE, RI-MASHPAUG POND Lab Number: L1412197

Project Number: Not Specified Report Date: 06/09/14

**SAMPLE RESULTS** 

Lab ID: Date Collected: 06/05/14 13:38

Client ID: SWANTON-N Date Received: 06/05/14 Sample Location: Not Specified Field Prep: Not Specified

Matrix: Water

Parameter		ualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	s - vvestborougn L	.ab							
Coliform, Fecal (MF)	34000	col/100ml	1000	NA	1000	-	06/05/14 17:35	30,9222D	SE
E. Coli (MPN)	31000	MPN/100ml	500	NA	500	-	06/05/14 16:10	30,9223B	SE
ENTEROCOCCUS	24000	MPN/100ml	10	NA	10	-	06/05/14 17:10	102,ENTEROLER	R SE



06/05/14 17:35

30,9222D

SE

L1412197

Project Name: PROVIDENCE, RI-MASHPAUG POND Lab Number:

col/100ml

Project Number: Not Specified Report Date: 06/09/14

Method Blank Analysis Batch Quality Control

Parameter	Result Qualific	er Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	- Westborough Lab	for sample(	s): 01-02	Batch:	WG695493	3-1			
E. Coli (MPN)	<1	MPN/100n	nl 1	NA	1	-	06/05/14 16:10	30,9223B	SE
Microbiological Analysis	- Westborough Lab	for sample(	s): 01-02	Batch:	WG695496	6-1			
ENTEROCOCCUS	<1	MPN/100n	nl 1	NA	1	-	06/05/14 17:10	102,ENTEROLE	R SE
Microbiological Analysis	- Westborough Lab	for sample(	s): 01-02	Batch:	WG695498	3-1		'	

NA

1

1.0



Coliform, Fecal (MF)

ND

**Project Name:** PROVIDENCE, RI-MASHPAUG POND

Lab Number: L1412197 Project Number: Not Specified **Report Date:** 06/09/14

#### Sample Receipt and Container Information

YES Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

**Cooler Information Custody Seal** 

Cooler

Α Absent

Container Info	rmation		Temp				
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1412197-01A	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	E-COLI-QT(.25)
L1412197-01B	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	ENTRO-QT(.25)
L1412197-01C	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	F-COLI-MF(.33)
L1412197-02A	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	E-COLI-QT(.25)
L1412197-02B	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	ENTRO-QT(.25)
L1412197-02C	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	F-COLI-MF(.33)



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **GLOSSARY**

#### **Acronyms**

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

#### Footnotes

- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method

#### Terms

1

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

#### **Data Qualifiers**

- A Spectra identified as "Aldol Condensation Product".
- B The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
  of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

Report Format: Data Usability Report



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **Data Qualifiers**

- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- ${f P}$  The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **REFERENCES**

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

Standard Test Method for Enterococci in Water Using Enterolert (IDEXX Defined Substrate Technology), Amercian Society of Testing & Materials, ASTM D6503-99.

#### LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



#### **Certification Information**

Last revised April 15, 2014

#### The following analytes are not included in our NELAP Scope of Accreditation:

#### Westborough Facility

**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, lodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

**EPA 8270D:** 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

#### **Mansfield Facility**

EPA 8270D: Biphenyl. EPA 2540D: TSS

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene,

Benzothiophene, 1-Methylnaphthalene.

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

#### **Drinking Water**

**EPA 200.8**: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F; Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

#### Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mq,Mn,Mo,Ni,K,Se,Aq,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

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Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

1-19207



#### ANALYTICAL REPORT

Lab Number: L1403844

Client: U.S. EPA

N.E. Regional Lab-Office of Env. Meas.

11 Technology Drive

North Chelmsford, MA 01863-2431

ATTN: Vicki Maynard Phone: (617) 918-8614

Project Name: PROVIDENCE-MASHPAUG POND

Project Number: Not Specified Report Date: 02/25/14

Digitally signed by Dan Boudreau DN: cn=Dan Boudreau, o=EPA, ou=EIA, email=boudreau.dan@epa.g ov, c=US Date: 2014.02.25 15:34:33 -05'00'

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** PROVIDENCE-MASHPAUG POND Lab Number: L1403844

**Project Number:** Not Specified Report Date: 02/25/14

Sample Location Alpha Sample ID Collection Date/Time **Client ID** 

Not Specified 02/21/14 10:00 L1403844-01 **NIANTIC-1** 



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Cypellia fin Che Cynthia McQueen

Authorized Signature:

Title: Technical Director/Representative

ALPHA

Date: 02/25/14

# INORGANICS & MISCELLANEOUS



Project Name: PROVIDENCE-MASHPAUG POND Lab Number: L1403844

Project Number: Not Specified Report Date: 02/25/14

**SAMPLE RESULTS** 

Lab ID: L1403844-01 Date Collected: 02/21/14 10:00

Client ID: NIANTIC-1 Date Received: 02/21/14
Sample Location: Not Specified Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst	
Microbiological Analysis - Westborough Lab										
Coliform, Fecal (MF)	96	col/100ml	2.0	NA	2	-	02/21/14 17:30	30,9222D	SE	
E. Coli (MPN)	44	MPN/100ml	1.0	NA	1	-	02/21/14 16:25	30,9223B	SE	
ENTEROCOCCUS	80	MPN/100ml	1.0	NA	1	-	02/21/14 16:30	102,ENTEROLER	SE	



**Project Name:** PROVIDENCE-MASHPAUG POND **Lab Number:** L1403844

Project Number: Not Specified Report Date: 02/25/14

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	r Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	- Westborough Lab f	for sample(s):	01	Batch:	WG671663-1				
E. Coli (MPN)	<1	MPN/100ml	1	NA	1	-	02/21/14 16:25	30,9223B	SE
Microbiological Analysis	- Westborough Lab f	for sample(s):	01	Batch:	WG671664-1				
ENTEROCOCCUS	<1	MPN/100ml	1	NA	1	-	02/21/14 16:30	102,ENTEROLE	R SE
Microbiological Analysis	- Westborough Lab f	for sample(s):	01	Batch:	WG671665-1			·	
Coliform, Fecal (MF)	ND	col/100ml	1.0	NA	1	-	02/21/14 17:30	30,9222D	SE



Lab Number: L1403844

Project Name: PROVIDENCE-MASHPAUG POND

Project Number: Not Specified Report Date: 02/25/14

**Sample Receipt and Container Information** 

YES

Sample Receipt and Container information

Reagent H2O Preserved Vials Frozen on: NA

Were project specific reporting limits specified?

**Cooler Information Custody Seal** 

Cooler

A Absent

Container Info	ormation		Temp				
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1403844-01A	Bacteria Cup unpreserved	Α	N/A	4.6	Υ	Absent	F-COLI-MF(.33)
L1403844-01B	Bacteria Cup unpreserved	Α	N/A	4.6	Υ	Absent	E-COLI-QT(.25)
L1403844-01C	Bacteria Cup unpreserved	Α	N/A	4.6	Υ	Absent	ENTRO-QT(.25)



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **GLOSSARY**

#### **Acronyms**

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

#### Footnotes

SRM

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### Terms

1

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

#### Data Qualifiers

- A Spectra identified as "Aldol Condensation Product".
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
  of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.

Report Format: Data Usability Report



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **Data Qualifiers**

- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- $\boldsymbol{R}$  Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:PROVIDENCE-MASHPAUG PONDLab Number:L1403844Project Number:Not SpecifiedReport Date:02/25/14

#### **REFERENCES**

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

Standard Test Method for Enterococci in Water Using Enterolert (IDEXX Defined Substrate Technology), Amercian Society of Testing & Materials, ASTM D6503-99.

#### LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



#### **Certification Information**

Last revised December 11, 2013

#### The following analytes are not included in our NELAP Scope of Accreditation:

#### Westborough Facility

**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

**EPA 8270D:** 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

#### **Mansfield Facility**

EPA 8270D: Biphenyl.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

#### **Drinking Water**

**EPA 200.8**: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

**EPA 332**: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

#### Non-Potable Water

**EPA 200.8**: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics.

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ENVIRONMENTAL PROTECTION AGENCY

REGION 1

CHAIN OF CUSTODY RECORD

Serial\_No:02251414:39

Received by: (Signature) Received by: (Signature) REMARKS 2045 Date / Time Date / Time Call A Remarks 9 (91/14 Relinquished by: (Signeture) Relinquished by: (Signature) Date / Time 7 5×11 TAINERS Ö PO Received for Laboratory by: (Signature) Received, by: (Signeture) Date / Time | Received by: (Signature) Janlhuany STATION LOCATION Froudence - Meshyang POND Johll Date / Time NIGHT'S Date / Time 2/21/14 CHAB PROJECT NAME × COMP Relinquished by: (Signature) Relinquished by: (Signature) Relinquished by: (Signature) TIME "Lon 1000 SAMPLERS: (Signature) B. Heer 421/14 DATE PROJ. NO. STA, NO.

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

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1-19272



# United States Environmental Protection Agency Office of Environmental Measurement & Evaluation 11 Technology Drive North Chelmsford, MA 01863-2431

#### Laboratory Report

June 17, 2014

Erin Trainor - EIA / OEME US EPA New England R1

Project Number: 14060008

Project: MS4 Mashpaug Pond - Providence, RI Analysis: HPLC/MS/MS Source Tracking Analysis

EPA Chemist: Peter Philbrook

Date Samples Received by the Laboratory: 06/05/2014

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, EIA-LCMS\_STA.1.

The SOP is based on an EPA Regional Analytical Method developed at the EPA New England Laboratory.

Data were reviewed in accordance with the internal verification procedures described in the EPA New England Quality Manual for NERL.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

If you have any questions please call me at 617-918-8340.

Sincerely,

Digitally signed by Dan Boudreau DN: cn=Dan Boudreau, o=EPA, ou=EIA, email=boudreau.dan@epa.gov, c=US

Date: 2014.06.17 11:23:31 -04'00'

14060008\$STA

#### Qualifiers

RL	Reporting	limit
	reporting	111111

**ND** Not Detected above reporting limit

NA Not Applicable

NC Not calculated since analyte concentration is ND

J1 Estimated value due to MS recovery outside acceptance criteria
 J2 Estimated value due to LFB result outside acceptance criteria

J3 Estimated value due to RPD result outside acceptance criteria
 J4 Estimated value due to LCS result outside acceptance criteria

**B** Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 3 times the concentration in the blank.

**R** No recovery was calculated since the analyte concentration is greater than four times the spike level.

#### MS4 Mashpaug Pond - Providence, RI

#### **HPLC/MS/MS Source Tracking Analysis**

Client Sample ID: Niamtic-E-1 Lab Sample ID: AB48755

Date of Collection: 6/05/2014 Matrix: Water

Date of Preparation: 6/09/2014 Amount Prepared: 350 mL

Date of Analysis: 6/10/2014

		Concentration		$\mathbf{RL}$	
CAS Number	Compound	ng/L	Dilution	ng/L	Qualifier
486-56-6	Cotinine	38	1	0.56	
103-90-2	Acetaminophen	21	1	2.8	
29122-68-7	Atenolol	ND	1	2.8	
611-59-6	1,7-Dimethylxanthine	13	1	2.8	
58-08-2	Caffeine	1700	5	28	
56392-17-7	Metoprolol	ND	1	2.8	
298-46-4	Carbamazepine	ND	1	0.56	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	75	33 - 157
Sulfamethazine 13C6	53	39 - 138

#### MS4 Mashpaug Pond - Providence, RI

#### HPLC/MS/MS Source Tracking Analysis

Client Sample ID: Swanton-N Lab Sample ID: AB48756

Date of Collection: 6/05/2014 Matrix: Water

Date of Preparation: 6/09/2014 Amount Prepared: 400 mL

Date of Analysis: 6/10/2014

		Concentration		$\mathbf{RL}$	
CAS Number	Compound	ng/L	Dilution	ng/L	Qualifier
486-56-6	Cotinine	220	2	1.0	
103-90-2	Acetaminophen	23	2	5.0	
29122-68-7	Atenolol	ND	2	5.0	
611-59-6	1,7-Dimethylxanthine	20	2	5.0	
58-08-2	Caffeine	290	2	10	
56392-17-7	Metoprolol	ND	2	5.0	
298-46-4	Carbamazepine	ND	2	1.0	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	104	33 - 157
Sulfamethazine 13C6	113	39 - 138

#### MS4 Mashpaug Pond - Providence, RI

#### **Laboratory Blank**

Client Sample ID: N/A

Date of Collection: N/A

Date of Preparation: 6/09/2014

Lab Sample ID: N/A

Matrix: Water

Amount Prepared: 500 mL

Date of Analysis: 6/10/2014

		Concentration		$\mathbf{RL}$	
CAS Number	Compound	ng/L	Dilution	ng/L	Qualifier
29122-68-7	Cotinine	ND	1	0.40	
103-90-2	Acetaminophen	ND	1	2.0	
486-56-6	Atenolol	ND	1	2.0	
611-59-6	1,7-Dimethylxanthine	ND	1	2.0	
58-08-2	Caffeine	ND	1	4.0	
298-46-4	Metoprolol	ND	1	2.0	
56392-17-7	Carbamazepine	ND	1	0.40	

Surrogate Compounds	Recoveries (%)	QC Ranges
Primidone d5	93	33 - 157
Sulfamethazine 13C6	81	39 - 138

#### MS4 Mashpaug Pond - Providence, RI

#### **Matrix Spike Recovery**

MS4 Mashpaug Pond - Providence, RI Sample ID: AB48756

PARAMETER	SPIKE ADDED ng/L	SAMPLE CONCENTRATION ng/L	MS CONCENTRATION ng/L	MS % REC	QC LIMITS (% REC)
1,7-Dimethylxanthine	150.0	20	110	60	13 - 174
Acetaminophen	150.0	23	175	101	23 - 138
Atenolol	150.0	ND	188	125	49 - 137
Caffeine	300.0	290	577	96	31 - 156
Carbamazepine	30.0	ND	33.2	111	47 - 143
Cotinine	30.0	220	240	67	46 - 121
Metoprolol	150.0	ND	168	112	60 - 140
<del>-</del>					

#### MS4 Mashpaug Pond - Providence, RI

#### **Laboratory Duplicate Results**

Sample ID: AB48755

PARAMETER	SAMPLE RESULT ng/L	SAMPLE DUPLICATE RESULT ng/L	PRECISION RPD %	QC LIMITS
155: 11	10	4.4	5.44	<b>~</b> 0
1,7-Dimethylxanthine	13	14	7.41	50
Acetaminophen	21	20	4.88	50
Atenolol	ND	ND	ND	50
Caffeine	1700	1700	0.00	50
Carbamazepine	ND	ND	ND	50
Cotinine	38	36	5.41	50
Metoprolol	ND	ND	ND	50

#### MS4 Mashpaug Pond - Providence, RI

#### Laboratory Fortified Blank (LFB) Results

PARAMETER	LFB AMOUNT SPIKED ng/L	LFB RESULT ng/L	LFB RECOVERY %	QC LIMITS %
1,7-Dimethylxanthine	600	478	80	64 - 135
Acetaminophen	600	542	90	48 - 122
Atenolol	600	422	70	52 - 128
Caffeine	1200	1124	94	68 - 126
Carbamazepine	120	102	85	65 - 121
Cotinine	120	117	98	60 - 120
Metoprolol	600	578	96	60 - 140

**Comments:** 

Samples in Batch: AB48755, AB48756



# ENVIRONMENTAL PROTECTION AGENCY

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#### ANALYTICAL REPORT

Lab Number: L1412197

Client: U.S. EPA

N.E. Regional Lab-Office of Env. Meas.

11 Technology Drive

North Chelmsford, MA 01863-2431

ATTN: Dan Boudreau Phone: (617) 918-8340

Project Name: PROVIDENCE, RI-MASHPAUG POND

Project Number: Not Specified Report Date: 06/09/14

Digitally signed by Dan Boudreau DN: cn=Dan Boudreau, o=EPA, ou=EIA, email=boudreau.dan@epa.gov, c=US

Date: 2014.06.16 09:08:01 -04'00'

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** PROVIDENCE, RI-MASHPAUG POND **Lab Number:** L1412197

Project Number: Not Specified Report Date: 06/09/14

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1412197-01	NIANTIC-E-1	Not Specified	06/05/14 13:08
L1412197-02	SWANTON-N	Not Specified	06/05/14 13:38



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions	Please o	contact	Client	Services	at 800	-624-9220	with	any o	questions
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I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

King l. Wister Lisa Westerlind

Authorized Signature:

Title: Technical Director/Representative

Date: 06/09/14



# INORGANICS & MISCELLANEOUS



Project Name: PROVIDENCE, RI-MASHPAUG POND Lab Number: L1412197

Project Number: Not Specified Report Date: 06/09/14

**SAMPLE RESULTS** 

Lab ID: Date Collected: 06/05/14 13:08

Client ID: NIANTIC-E-1 Date Received: 06/05/14
Sample Location: Not Specified Field Prep: Not Specified

Matrix: Water

Parameter		ualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	s - vvestborougn L	_ab							
Coliform, Fecal (MF)	21000	col/100ml	1000	NA	1000	-	06/05/14 17:35	30,9222D	SE
E. Coli (MPN)	56000	MPN/100ml	500	NA	500	-	06/05/14 16:10	30,9223B	SE
ENTEROCOCCUS	48000	MPN/100ml	500	NA	500	-	06/05/14 17:10	102,ENTEROLER	R SE



Project Name: PROVIDENCE, RI-MASHPAUG POND Lab Number: L1412197

Project Number: Not Specified Report Date: 06/09/14

**SAMPLE RESULTS** 

Lab ID: Date Collected: 06/05/14 13:38

Client ID: SWANTON-N Date Received: 06/05/14 Sample Location: Not Specified Field Prep: Not Specified

Matrix: Water

Parameter		ualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	s - vvestborougn L	.ab							
Coliform, Fecal (MF)	34000	col/100ml	1000	NA	1000	-	06/05/14 17:35	30,9222D	SE
E. Coli (MPN)	31000	MPN/100ml	500	NA	500	-	06/05/14 16:10	30,9223B	SE
ENTEROCOCCUS	24000	MPN/100ml	10	NA	10	-	06/05/14 17:10	102,ENTEROLER	R SE



**Project Name:** PROVIDENCE, RI-MASHPAUG POND **Lab Number:** L1412197

Project Number: Not Specified Report Date: 06/09/14

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifie	er Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis	- Westborough Lab	for sample(s):	01-02	Batch:	WG695493	3-1			
E. Coli (MPN)	<1	MPN/100ml	1	NA	1	-	06/05/14 16:10	30,9223B	SE
Microbiological Analysis	- Westborough Lab	for sample(s):	01-02	Batch:	WG695496	6-1			
ENTEROCOCCUS	<1	MPN/100ml	1	NA	1	-	06/05/14 17:10	102,ENTEROLE	R SE
Microbiological Analysis	- Westborough Lab	for sample(s):	01-02	Batch:	WG695498	3-1		· ·	
Coliform, Fecal (MF)	ND	col/100ml	1.0	NA	1	-	06/05/14 17:35	30,9222D	SE



**Project Name:** PROVIDENCE, RI-MASHPAUG POND

Lab Number: L1412197 Project Number: Not Specified **Report Date:** 06/09/14

#### Sample Receipt and Container Information

YES Were project specific reporting limits specified?

Reagent H2O Preserved Vials Frozen on: NA

**Cooler Information Custody Seal** 

Cooler

Α Absent

Container Information					Temp			
	Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
	L1412197-01A	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	E-COLI-QT(.25)
	L1412197-01B	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	ENTRO-QT(.25)
	L1412197-01C	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	F-COLI-MF(.33)
	L1412197-02A	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	E-COLI-QT(.25)
	L1412197-02B	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	ENTRO-QT(.25)
	L1412197-02C	Bacteria Cup unpreserved	Α	N/A	2.8	Υ	Absent	F-COLI-MF(.33)



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **GLOSSARY**

#### **Acronyms**

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

#### Footnotes

- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method

#### Terms

1

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

#### **Data Qualifiers**

- A Spectra identified as "Aldol Condensation Product".
- B The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
  of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

Report Format: Data Usability Report



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **Data Qualifiers**

- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- ${f P}$  The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:PROVIDENCE, RI-MASHPAUG PONDLab Number:L1412197Project Number:Not SpecifiedReport Date:06/09/14

#### **REFERENCES**

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

Standard Test Method for Enterococci in Water Using Enterolert (IDEXX Defined Substrate Technology), Amercian Society of Testing & Materials, ASTM D6503-99.

#### LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



#### **Certification Information**

Last revised April 15, 2014

#### The following analytes are not included in our NELAP Scope of Accreditation:

#### Westborough Facility

**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, lodomethane (methyl iodide), Methyl methacrylate,

Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

**EPA 8270D:** 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

#### **Mansfield Facility**

EPA 8270D: Biphenyl. EPA 2540D: TSS

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene,

Benzothiophene, 1-Methylnaphthalene.

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

#### **Drinking Water**

**EPA 200.8**: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1**: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F; Nitrate-N, Nitrite-N; SM4500F-C,

SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

#### Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mq,Mn,Mo,Ni,K,Se,Aq,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,

SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,

Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

tb121H17

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Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

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